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COMPARATIVE SIOUAN IV

HANS WOLFF
UNIVERSITY OF PUERTO RICO

0. Introduction
1. Reconstructed morphemes
2. Class X
3. Class 10
4. Class 20
5. Class 20 alternants
6. Class 30

0. We discuss here the historical development of Siouan person markers. Included are free person markers, active and non-active person marking prefixes, and two prefixes which occur in sequence with person markers. All prefixes occur in sequence with verb bases, and the complete sequence is given in all examples of reflexes. In case of morpheme alternants (under **5.** below) we reconstruct the sequence responsible for the alternation. Throughout the paper sequences are given in the shape of formulas, e.g. 20 + 31 + V, in which the plus sign (+) stands for the phrase "in sequence with"; specific distribution beyond the fact of prefixation is not treated. Letter symbols for individual daughter languages are the same as those used in the comparative phonology.[1]

Although the available source material[2] was less plentiful than for the comparative phonology, a sufficient number of reflexes has been found to support the reconstruction of Proto-Siouan forms throughout.

1. We reconstruct the following Proto-Siouan (PS) morphemes: free form class X, designated by Roman numerals as follows—

I. *mi ~ *wi *first person singular*

II. *ni ~ *Li *second person*

III. *i ~ *į *third person*

IV. *nu ~ *ų(k) *first person dual*; prefix class 10, numbered 11 and 12, as follows—

11. *mi- ~ *mį- ~ *wi- *non-active first person singular*

12. *ni- ~ *Li- *non-active second person;* prefix class 20, numbered 21–23 inclusive, as follows—

21. *wa- *active first person singular*

22. *La- *active second person*

23. *nu- ~ *ų(k)- *first person dual;* and prefix class 30, numbered 31 and 32, as follows—

31. *ki- *general purposive*

32. *i- *specific purposive.*

Alternant *į of III may be an emphatic form, as may other nasalized-vowel alternants of the above reconstructed morphemes. We further postulate class 10 as being prefix derivatives of class X. The somewhat unclear meanings of morphemes of class 30 will be commented on in greater detail under **6.** below.

2. Reflexes of Class X are given below as far as available in the source material, either as free forms or as elements of compounds.

I. *mi ~ *wi *first person singular*—C. wi· *I* M. mi *I*; mí-ona *I'm the one;* mí-šak *I myself* D. míye *I*; miš *I, emphatically* OmP. wi *I* Os. wi-nǫ *I alone;* mįkše *I who sit here*

[1] For Comparative Siouan I and II and III, see IJAL 16.61–66, 113–121, 168–178 (1950).

[2] Source material for this paper was obtained from the following: F. Boas and J. R. Swanton, "Siouan" BAE-B 40 vol. 1.875–966 (1911); J. O. Dorsey and J. R. Swanton, A Dictionary of the Biloxi and Ofo Languages, BAE-B 47 (1912); E. Kennard, Mandan Grammar, IJAL 9.1–43 (1936); R. H. Lowie, Zellig Harris and C. F. Voegelin, Hidatsa Texts, PRS 1.173–239 (1939); R. H. Lowie, The Crow Language, UCPAAE 39.1–142 (1941); C. F. Voegelin, A problem in morpheme alternants and their distribution, Lg 23.245–54 (1947); W. Whitman, Descriptive Grammar of Ioway-Oto, IJAL 13.233–48 (1947).

(ritual use) Of. mįti *I;* mi-hísa *I myself* Tu. mi·m *I*; also misá·i ~ misą́i.

II. *ni ~ *Li *second person*—C. ri· *you* H. rih-ki *you yourself* M. ni *you;* ní-ona *you're the one*; ní-šak *you yourself* D. níye *you*; niš *you, emphatically* OmP. θi *you* Os. ðíe *you*; ðíe-nǫ *you yourself* (ritual usage). We postulate an Ohio Valley variant *Lᵛi—Bl. ayíndi ~ ayį́t *you* Of. čįti *you* Tu. yi·m *you*; also yisá·i ~ yisą́i.

III. *i ~ *į *third person*—C. i··tácka·t *he alone* H. íh-ki *he himself* M. í-ona *he's the one;* í-šak *he himself* D. íye *he, she, etc.;* iš *he, emphatically* Os. e *he, she, that* Bl. índi ~ į́t *he, she, it* Of. i-hísa *he himself* Tu. i·m ~ i·mahé·se *third person;* also isá·i ~ isą́i.

IV. *nu ~ *ų(k) *first person dual* has been lost in some daughter languages while it changed meaning in others—C. waré *we;* wí·ru *we, emphatically* are certainly new formations, possibly patterned after the corresponding prefix morphemes. In Mandan the meaning of PS IV is *first person plural*—M. nu *we;* nú-ona *we're the ones;* nú-šak *we ourselves.* Dakota and Omaha-Ponca retain the PS form and meaning—ųkíye *we two;* ųkíš ~ ųkíyeš *we two, emphatically,* but ųkíye-pi *we* OmP. ągu *we two.* In Biloxi PS IV came to mean simply *first person,* singular or plural—Bl. nkíndini ~ nkíndi *I;* nkį́x-tú ~ nkix-tú *we.* Of. ǫti means *first person plural;* but mihísa ečį́ti *we ourselves.* The Biloxi leveling of the meaning of PS IV to include first person singular is unique among the Siouan languages, but an identical change is recorded in the Biloxi treatment of the first person dual prefix (see under **4.** below).

3.0. The meaning of prefix class 10 depends on the sequence in which these morpheme occur; 10 + verb (V) = *inactive, passive, adjectival;* 10 + 20 + V = *object* + *subject.* Reflexes are given below, first of 10 prefixed to the verb base (symbolized 10), then of 10 in distribution with another person marking prefix and the verb base (symbolized 10+).

3.1. PS 11. *mi- ~ *mį- ~ *wi- *nonactive first person* is retained in Crow-Hidatsa, Ofo, and Tutelo. Mandan and Dakota retain the initial consonant of the PS form but change the vowel, possibly in assonance to PS 21. *wa-; the same happens in Omaha-Ponca, where the initial consonant is lost. In the Čiwere-Winnebago group the consonant is also lost and later replaced by h-, but the PS form is extant in a few cases in Čiwere. The Biloxi data is confusing, since we have no way of knowing whether we are really dealing with vestigial forms of PS 11 or with analogous creations; the latter would seem more probable, however.

C. wi··wiší-k *I was born;* wi··t-aná··k *I shiver* H. wi-há·wi-c *I sleep;* wi··witapá-c *I tell a lie;* wi··akí-c *I joined it;* wi··xaká··c *I move.*

M. o-má-ptik-soš *I fell;* ma-síh-kas *I used to be strong;* mí··nis-oš (= ma-inis-oš) *I'm alive* D. ma-šíča *I'm bad;* ma-čéka *I stagger.*

Č. hi-yáwini *I get stabbed;* hį-gílo *I feel good;* hį-dániŋe *I'm drunk;* mį-náhe *I'm sitting;* mą́ŋe (= mį-há́ŋe) *I'm lying down* W. hí-šibre *I'm falling;* hį-xá-ire *they bury me.*

OmP. ą-θíge *I don't have it;* ą-wąxpani *I am poor.*

Bl. yą́k-ataxni *I'm burned;* ax-tohó *I lie down;* yáx-kinépi *I am glad* Of. mįti até *I'm dead;* íw-aye *I cry* Tu. wi-te·wa *I'm dead, I died.*

PS 11+: The Biloxi data is again confusing, especially sequences hi-yąk- and n-y-; the ancestry of Ofo ye- is unknown. Note the sequence alternants before i- and u-bases in Omaha-Ponca.

C. wi··rí··kyuku *do you hear me?;* mi··racíwe··k *you told me* H. aru-wi··e·hke··c *she'll know me;* wi··rakcutá·ra *whip me, you fellows!*

M. ma-ná-ku-ki *if you give me;* ma-nás-ta *name me!* D. ma-yá-kte *you killed me;* ma-yá-kaška *you tie me.*

Č. hį-s-líθųhų *you drag me;* hį-s-láje *you name me;* ą́lasda (= a-há-la-s-da) *you see me;* hį-s-waθųje *you push me down* W. hį-šú-

rugas *you tear me by pulling;* hį-šú-wusunč *you are near me.*

OmP. ą-θá-šiθá-ži *you don't remember me;* ąθą-wąkégai *I'm sick on account of it* (i-base); ąwą-na?ą *he heard about me* (u-base).

Bl. hí-yąk-įdáhi *you seek me;* n-y-úxtuki *you push me;* hi-yan-dukučké *you tied me* Of. awi-č-óktaki *you tell me;* ye-tǫ́hi *he sees me.*

3.2. PS 12. *ni- ~ *Li- *non-active second person* also occurs nasalized; phonologically regular reflexes occur in all daughter languages but the Ohio Valley group, where we postulate a pre-Ohio Valley *L^{y}i-.

C. ri··wiší-k *you were born;* ri··t-aná··k *you shiver.* No actual sequences have been observed in Hidatsa, but the reflex of PS 12 is ri- ~ ri··, as in Crow.

M. o-ri-rúšųk-oš (= o-ni-rúšųk-oš) *you are hanging;* ní-numąk-oš *you're a man;* ni-xaráki-nit-oš *you all are brave;* ni-numąkši-ktoš *you'll be chief* D. a-ni-šni *you are well;* ni-tąka-pi *you all are big.*

Č. li-yáwini *you get stabbed;* li-gílo *you feel good;* li-dánįŋe *you're drunk;* li-xwáne *you're lost* W. nį-šibre *you're falling.*

OmP. θi-θíge *you don't have;* í-ðì-biθe *you're thirsty* (Os).

Bl. yí-kinepí *you're glad;* ayí-taxni *you are burned;* sníhi-yi-tédi *you feel cold* Of. íč-aye *you cry;* ačį-púke *you are sweating* Tu. yi-te·wa *you are dead.*

PS 12+: C. ri··wa-ciwé··wi-k *I'll tell you;* ri··wa-p·é··wi-ma·ci-k *I'll kill you* H. ri··kiwáx·u-ruk *when she asks you;* wá-ri-ku-c *I gave it to you.*

M. mi-ni-ku-kt-ore *I'll give it to you;* mi-ni-pe-soš *I said it to you* D. či-čaška *I tie you.*

Č. a-lí-ta *I see you;* há-li-da-wi (= hį-á-li-) *we see you;* li-dáje *I name you;* hį-lí-laje-wi *we name you;* li-dúðe *I take you* W. nį-xe *I bury you;* há-nį-pa *I hit you;* nį-páčgis *I am sawing you;* nį-pérez (= nį-hiperez) *I know you.*

OmP. wi-ná?ą *I hear you;* u-wí-t?į *I hit you;* ą-θí-?į *we give it to you;* ą-θí-šiθa-i *we remember you;* as Dakota, Omaha-Ponca has a special sequence alternant for the sequence *I-you.*

Bl. n-yí-ku dandé *I'll give it to you;* n-yi-dǫ́hi *I see you;* į-y-úxtuki *I push you;* į-y-édi *I said it to you;* į-y-ódi *I shoot you;* į-y-únoxe *I live with you* Of. a-či-kté *I'll kill you;* ąči-w-óktaki *I tell you.*

4.0. PS prefix class 20, active person marking prefixes, occurs in sequence with the verb base (20 + V) and in the aforementioned sequence with class 10 (10 + 20 + V), without a change in meaning. It also occurs with PS class 30, which see under **6.** below.

4.1. PS 21. *wa- *active first person singular* is retained in the Crow-Hidatsa group, in Dakota and Mandan, and in Ofo and Tutelo of the Ohio Valley group. The initial consonant is lost in the Ɛegiha group; also in Čiwere-Winnebago, where it is later replaced by h-. In Biloxi the reflex of *wa-, without the initial consonant, is extant only in distribution with PS 31, *ki- (see under **6.** below).

C. wah-ká··k *I laugh;* wa-šé··k *I paint it;* wa-rí-k *I live;* wa-rí··k *I speak;* wa··pá··k *I shout* H. wah-kúre?e-c *I carry it;* wa··hu··c *I came;* wa-pá·hi-c *I sing;* wa··kí·ri-c *I seek it;* wa-kí-c *I have it on my back;* wa-hú-c *I give it to him.*

M. wá-xkah-oš *I broke camp;* wi-wá-karoš *I bought it;* wa-réh-č *I intend to go;* wakúh-oš *I arrived home* D. wá-ti *I dwell;* wa-lową *I sing;* ča-wá-pa *I stab him;* ma-wa-ni *I walk;* wa-čeya *I cry.*

Č. ha-póθewi *I blow out the light;* ha-náhtake *I kick it;* ha-yą́ *I sleep;* ha-náyį *I stand;* há-xe *I bury him;* u-há-yu *I fill it* W. ha··xé *I bury him;* ya-pérez (= hi-ha-perez) *I know it;* ná-šiš (= ną-ha-šiš) *I break it by pressure.*

OmP. a-thí *I arrive;* a-ná?ą *I hear it;* a-té *I die;* ku-a-he *I fear it;* u-a-ha *I follow him;* ši-a-gθe *I unload it* Os. u-a-k?i *I feed him;* a-xé *I bury him;* nǫ́-a-pe *I'm afraid;* a-wanǫ́bðe *I eat something;* a-kí *I reach home.*

Of. wa-kú *I give it;* wa-kásoki *I break it;* wa-líči *I dance;* wa-pé *I pound it;* wa-túča

I wash it; awá-nase *I listen;* the initial allophone of Ofo /w/ is [b], according to our material. Tu. wa-lakpése *I drink it;* wa-hiantkapé·wa *I sleep;* o-wa-pé··wa *I go;* wa-kté·wa (= wa-kté-e·wa) *I kill him.*

4.2. PS 22. *La- *active second person* is retained in all daughter languages, but we postulate a pre-Ohio Valley *L^{y}a-.

C. rá··ši-k *you died;* ra-pxe·ci-k *you pierce it;* rah-ká··k *you laugh;* ra-rá·ci-k *you seize it with your teeth* H. rá-re··ri-c *you'll be going;* ra··ráwi-c *you go by;* wiri-rá··ri-c *you're getting in;* a-ra-wá·ki-c *you're sitting down.*

M. ra-rópxe-kt-oš *you will enter;* wi-rá-ka-roš *you buy it;* ma-ná-nape-š *you dance;* ro-rá-ha-nit-oš *you'll see us* D. ma-yá-kte-pi *you all kill me;* ma-ya-nǫ́ *you stole it;* wa-ya-kša *you cut it off;* bo-ya-ksa *you shoot it off.*

Č. la-yą́ *you're sleeping;* la-nayį *you stand;* la-xé *you bury him;* la-nahdáge *you kick it;* la-nąk$^{?}$o *you wipe your feet* W. ra-xé *you bury him;* hi-ra-perez *you know it;* nạ-ná-šiš (= nạ-ra-šiš) *you break it by pressure;* mạ-ná-gas *you tear it with a knife.*

OmP. θa-thí *you arrived;* θa-ná$^{?}$ą *you hear it;* ža-θa-he *you stab him;* nạ-θa-pe *you're afraid* Os. ðạ-xé *you bury him;* nǫ-ðạ-pe *you're afraid;* wa-ðạ-nǫbðe *you eat something;* ðạ-kí *you got home.*

Bl. yá-kte-di *you hit him;* ya-kidédi *you went home;* ya-kídi *you carry it on your back;* í-tąhį *you ran* Of. ča-kú *you give it;* ča-líči *you dance;* ča-pé *you pound it;* ča-tushához *you're pulling it* Tu. o-ya-pé·wa *you go;* ya-lakpése *you drink it;* ya-kté·wa *you killed him.*

4.3. PS 23. *nu- ~ ų(k)- *first person dual* was lost in the Crow-Hidatsa group, where it is replaced by PS 21 plus a plural suffix. Mandan, Dakota, and the Ɂegiha group retain the PS form or its reflex, but the meaning of the Mandan morpheme is *first person plural.* In the Čiwere-Winnebago group the vowel ų is changed to į, preceded by h-. In the Ohio Valley group Ofo has a reflex of the PS form, while the meaning fluctuates between plural and dual; in Biloxi the meaning changed to *first person,* singular or plural. Tutelo ma- *first person plural* is most certainly a new formation.

M. nu-néh-oš (= nu-reh-oš) *we went;* ma-nu-nú-roš *we steal it;* ma-nú-nape-š *we dance;* nunú-kina-kt-oš (= ni-nu-) *we'll tell you* D. ú-ti *we two live in it;* wič-ú-kaška *you and I tie them;* ųk-úpa *we smoke (you and I);* če-ų-ti-pi *we build a fire;* ú-ti-pi *we live in it.*

Č. hį-nahtáke-wi *we kick it;* hį-yą́-wi *we're sleeping;* hį-nąyį-wi *we're standing;* hį-yą́we *we two sing;* hį-glí *we two arrived;* hį-lé *we both go* W. hį-mągá·s *you and I tear it with a knife;* hį-$^{?}$ú *you and I do it;* hį-t$^{?}$éną *we're both dead;* hó-jį (= hį-ho-jį) *you and I strike it.*

OmP. ą-mąθį-i *we walk;* ą-θi-šiθa-i *we remember you;* ą-wą́-dąba-i *we saw them;* ą-θí-$^{?}$i *we both give it to you* Os. ǫ-ðak$^{?}$i-i *we spit;* nǫ-ǫ́-pa-i *we fear it;* ǫ-ðíga *we two husk corn.*

Bl. ųk-tąhį *I run;* ųk-tax-tú *we run;* ų-ksédi *I break it with my hands;* n-dúti *I eat;* n-dúčadi *I wash it;* ųká-pehe *I pound it;* ų-náxte *I kick it;* nk-ódi *I shoot it;* nk-uksáki *I cut it with a knife* Of. ǫ-líči *we dance;* ǫ-pé *we pound it;* ǫ-aléči *we lick it;* ǫ-tékna *we both go;* ǫ-tékna-tu *we go.*

5.0. In this section we present the more pheme alternants of PS class 20, which developed when the latter was prefixed to verb bases beginning in certain phonemes; such base initial phonemes may be part of either the base or some non-person marking prefix, such as certain instrumental prefixes. Some of these morpheme alternants are found in all daughter languages and must be reconstructed to the Proto-Siouan period, at least as far as the phonological trend is concerned; others are found only in a limited number of language groups, and their origin is reconstructed to a later period in the relative chronology. It is perhaps significant that Mandan has no such morpheme alternants of class 20 and the Ohio Valley group only a minimum.

5.1. PS 20 + *L-base. Most *L-bases are composed of an instrumental prefix be-

ginning in *L, followed by the verb stem. The alternations are in their majority of an assimilative nature.

PS 21 + *L- becomes b-l- in the Teton and m-d- in the Santee dialect of Dakota; b-θ- and b-ð- in Omaha-Ponca and Osage respectively. Čiwere-Winnebago retained 21 while modifying *L-; Winnebago subsequently dropped 21. The phoneme substituted for *L- in Čiwere depends on the following vowel. Crow-Hidatsa either changes the vowel of 21 or assimilates part of the *L-base into 21.

C. wu-rucí-k *I take my own;* wu-ruhkápi-k *I scratch it;* wu-ruší··k *I put it down;* wa··pe··k *I kick it* (ara-); wa··sáci-k *I split it* (ra-); wú·šik *I eat it* H. wa··kcúti-c *I whipped him* (ra-); wa?a-pé··c *I kick it* (ra-); wa··wu·tí-c *I eat something* (ru-).

Dt. b-lúza *I take it* (yu-); b-láwa *I count it* (ya-); b-lá *I go* (ya) Ds. m-duštą *I finish it* (yu-); m-daksá *I bite it in two* (ya-).

Č. ha-dax?íge *I spit* (la-); a-túši *I bundle it* (lu-); ha-číθu *I clean it out* (li-); ha-J̌é *I go* (le); ha-J̌íxų *I drain it* (li-); ha-dúðe *I take it* (lu-) W. re· *I go;* rúgas *I tear it by pulling* (ru-); rášiš *I break it with the mouth* (ra-). The initial allophone of Winnebago /r/ is [d].

OmP. b-θíze *I receive it* (θi-); mą-b-θį *I walk;* e-b-θégą *I think that* (e-θe-) Os. b-ðuštá *I pluck it* (ðu-); b-ðigá *I husk corn* (ði-); b-ðáce *I name it* (ða-).

PS 22 + *L- is assimilated into l- in Dakota Teton, into d- in Santee. In the Ɛegiha group 22 becomes š- ∼ h- ∼ n-,[3] depending on the following vowel; this variation is accompanied by a phonemic change in the base initial. In Čiwere-Winnebago 22 became s- and š- respectively,[4] thus creating a cluster, which was subsequently dissolved in Winnebago in the usual treatment of such clusters. In Crow-Hidatsa 22 becomes ri- if the vowel following *L- is high; if this vowel is low, the assimilation is to ra··.

C. ri-rúci-k *you take your own;* ri-ruší··k *you put it down;* rá··pe··k *you kick it* (ara-); ri-rúši-k *you eat it* (ru-); rá··saci-k *you split it* (ra-) H. ra··kšía-c *you rope him* (ra-); ra?a-pe··c *you kick it* (ra-).

Dt. l-úza *you take it* (yu-); l-áwa *you count it* (ya-); la *you go* (ya) Ds. dustá *you finish it* (yu-); daksá *you bite it in two* (ya-).

Č. s-tax?íge *you spit* (la-); s-tíθu *you clean it out* (li-); s-túya *you wash it* (lu-); s-le *you go* (le); s-láje *you name it* (la-); s-lúðe *you take it* (lu-) W. še-re· *you go* (re·); šú-rugas *you tear it by pulling* (ru-); šá-rašiš *you break it with the mouth* (ra-).

OmP. š-ne *you went* (θe); h-na-í *you all went;* níze *you received it* (θi-); mą-nį *you walk* (-θį) Os. ða-xi-š-na *you fall* (ða); š-nígðǫ *you court her* (ði-); š-náge *you wear it* (ða-); š-dáce *you call him by name* (ða-).—PS 23 + *L- remains as a regular sequence in the daughter languages.

5.2. Some changes result when PS 21 and 22 are prefixed to a base beginning in a vowel (V-). Most of these changes are elisions of the vowel of either the prefix or the base. The most striking of these alternations developed in Čiwere, where PS 21 + V-base results in a stress shift to the first syllable of the base, while the prefix is dropped.

PS 21 + V-: C. wa-rí-k *I live* (iri); w-iháwi-k *I sleep;* aw-ó·ri-k *I'm waiting* H. aw-ocahti-c *I buried it;* aw-ópahti-c *I plugged it in;* wa-ak·í··c *I brought it;* aw-úa-c *I made a fire;* w-a?áciwi-c *I followed;* áw-araxe··xi-c *I grabbed him;* w-ú?a··c *I climb;* w-i··kikúa-c *I hear it.*

Č. ápaxroǰe *I shave it off* (apá-); áhone *I'm climbing* (a-hó); úxwane *I'm falling down* (u-xwá); ámina *I sit on it* (a-mí-).

Bl. nk-áde *I talk;* nk-ókxipa *I meet him;* nk-ódi *I shoot it;* nk-uksáki *I cut it with a knife* Of. w-áktuwa *I collected it;* w-ákxe *I plant it;* w-utkúsi *I cut it;* aw-oktáči *I work;* w-aléči *I lap it up;* aw-atǫhi *I'm running.*

PS 22 + V-: C. r-irí-k *you live;* r-irí··k

[3] Of š- and h- the former seems to be the older (see the Čiwere-Winnebago data), but the exact phonological process which led to š- is still doubtful.

[4] We postulate *š- as the pre-Čiwere-Winnebago reflex.

you speak; r-iháwi-k *you're sleeping;* ar-ó·ri-k *you are waiting.*

Č. a-rá-mina *you sit on it;* a-rá-hone *you climb;* o-ri-xwane *you fall down.*

Bl. ay-áde *you talk;* ay-ódi ~ y-ódi *you shoot it;* ay-átąhį *you run on it;* ay-ánačpi *you kicked it but missed;* y-uksáki *you cut it with a knife* Of. č-áktuwa *you collect it;* č-ákxe *you plant it;* ač-oktáči *you work;* č-aléči *you lap it up;* č-ófpaki *you split it.*

5.3. While the juxtaposition of PS class 20 and bases beginning in vowel prefixes u-/o-/i-/a- involve no more than slight distributional adjustment in most daughter languages, special sequence alternants have developed in Omaha-Ponca in the Ɋegiha group. No data was available for Osage, but it is likely that similar alternants—which also occur in the sequence 10 + 20 + vowel prefix—may be found in that language. Examples of such sequences follow below.

OmP. iθá-maγe *I ask him a question* (i-ma-); iθá-pahą *I know it* (i-ba-); weą́-θa-i *we found them* (i-θe-); í-wi-pahą *I know you;* ąθą-bahą *we two know it* (i-ba-); ągu-jką-i *we helped him* (u-); weą́-bahą-i *they know us* (i-ba-); weá-taθa-i *they hate us* (i-taθe).

5.4. Several alternants have developed in Čiwere-Winnebago and the Ɋegiha group in the juxtaposition of PS 20 and base-initial *t-. The following formulas summarize these changes: Č. 21 + *t- (= Č. d-) becomes 21 + t-; Č. 22 + *t- (= Č. d-) becomes s-d-. W. 21 + *t- or *t-q- (W. ǰ- / t?-) becomes č- and č?- respectively, while 21 is dropped; W. 22 + *t- or *t-q- (= W. ǰ-/t?-) becomes š-č and š-č? respectively. OmP. 21 + *t- (= OmP. d-) becomes t- while 21 is dropped; OmP. 22 + *t- (= OmP. d-) becomes š-t-. Data in parenthesis give the reflex of PS *t in each of these languages. There are no alternants for the sequence 23 + *t- in either group. No data was available for Osage.

PS 21 + *t-: Č. áta (= a-há-ta) *I see it* (ada); a-li-ta *I see you* W. č?ena *I'm dead* (t?e); ha-čá *I see it* (ǰa) OmP. tąbe *I see* (dą-); wi-tąbe *I see you.*

PS 22 + *t-: Č. a-lá-s-da *you see it;* ą́-la-s-da (= a-hį́-la-s-da) *you see me* W. š-č?éną *you're dead;* haš-čá *you see it* OmP. š-tąbe *you see it;* wa-š-tąbe *you saw us.*

PS 23 + *t-: Č. hąda (= hį-áda) *we two see it* W. hį-t?éną *we both are dead;* hí-ǰa *we two see it* OmP. ą-dąbe *we see it.*

5.5. Alternants for the sequence PS 20 + *k- have been found in Omaha-Ponca and Winnebago. W. 21 + *k- (= W. g-) becomes k- while 21 is dropped; W. 22 + *k- (= W. g-) becomes š-g-. OmP. 21 + *k- (OmP. g-) becomes k- while 21 is dropped; OmP. 22 + *k- (= OmP. g-) becomes š-k-. The sequence 23 + *k- has no alternants in either language. It may be reasonable to assume that these alternants are analogical formations patterned after the alternants described in **5.4.** above.

W. kúną *I'm coming;* š-guną *you come;* hį-guną *we both come* OmP. káγe *I make it;* š-káγe *you make it;* ą-gáγa-i *we make it, we do it.*

5.6. Alternants of 20 followed by base initial *w- have developed in Čiwere-Winnebago. In the sequence 21 + *w- the base initial consonant changes to p-, and 21 is subsequently dropped in Winnebago; 22 + *w- becomes a cluster of alternants s- (Čiwere) and š- (Winnebago) and base initial w-, which is resolved in Winnebago to šVwV, while it is retained in Čiwere. 21 + *w-: Č. ha-pax?óǰe *I made a hole in it* (wa-); á-paθo *I point at it;* u-ha-péxą *I make him move* (u-we-) W. péwį *I think* (we-); hi-púsųč *I'm near it* (hi-wu-); páčgis *I am sawing.* 22 + *w-: Č. s-wax?óǰe *you made a hole in it;* a-s-wáθo *you point at it;* u-s-wéxą *you made him move* W. šé-wewį *you are thinking;* hi-šú-wusųč *you're near him;* šá-wačgis *you are sawing.*

5.7. In the Ɋegiha group we find a series of alternants of the sequence PS 20 + *p-. The development may be symbolized by the following formulas: 21 + *p- (Ɋegiha b-) becomes p-, and 21 is dropped; 22 + *p- (Ɋegiha b-) becomes š-p-. Examples are: OmP. páγu *I write;* š-páγu *you write* Os.

wa-páha *I signal something;* wa-š-páha *you signal something.*

6.0. The existence of the two Proto-Siouan prefixes 31. *ki- and 32. *i-, which make up class 30 of PS prefix morphemes, is quite definitely established by their reflexes in the daughter languages. Their original meaning, given as *general purposive* and *specific purposive* under **1.** above, are quite uncertain. Reflexes of *ki- occur in many daughter languages with quite divergent meanings, whose central import is, however, that something occurs for some purpose or in somebody's interest, ownership being included under interest. The meaning of *i-, on the other hand, is more that of a dative, indicating, perhaps, that A happens for the benefit of B. At any rate, the meaning *specific purposive* will serve to distinguish *i- from the more general *ki- for the purposes of this paper. In the sections below, therefore, and without attempting any analysis of their semantic development, we give the reflexes of PS 31 and 32, arranged according to the meaning of specific sequences.

6.1. PS 20 + 31 + V *suus prefix, one's own* is found in all groups except Čiwere-Winnebago and Ohio Valley. The only noteworthy changes are the morpheme alternants developed in Dakota, where we find g-l- and h-d- in Teton and Santee respectively before *L-bases and k-p- in both Dakota dialects before *p-bases. All other variations are due to normal phonological development: C. ci-warán·ce-k[5] *he had marked his own;* wah-ci-raxúsa-k *I smashed my own;* ci-raxúsa-k *they smashed their own* H. ki-tá-wa·-wi-ha?a-c *we'll kill one of our own;* ki-kí·ri-ware·-c *he was seeking his own, they say.*

M. ki-rúše-romako-š *she took her own they say;* ki-rúxot-ki *when she untied her own;* ta-máhi ki-rúša-ka?ehe *he took his knife they say* D. ba-wá-ki-ksa *I cut off my own;* či-či-dową-pi *I sing for all of you;* g-luhá (Ds. h-duha) *they had their own;* g-láška *he tied his own.*

[5] ci- is the Crow reflex of Crow-Hidatsa *ki-.

OmP. gi-?į *he carries his own;* a-gí-?į *I carry my own;* a-gí-ą-b-θą *I abandon mine;* g-θíze *he took his own;* gi-káγe *he made his own;* a-gí-tąba-máži *I don't look at mine.*

6.2. PS 20 + 31 + V *another's, for another* is found in Čiwere-Winnebago and in Biloxi. In this sequence the reflex of PS 21 is retained in Biloxi; the phoneme /x/ inserted between a- *first person* and ki- is a morphophonemic variant occurring before morpheme initial k-.

Č. ha-gi-k?į *I carry his for him;* ha-gí-?ų *I make it for him;* hį-gí-yąwe *he sang it for me;* ha-gí-duče *I took his;* gi-lúhkiǰe *to tie it for another* W. hį-na-i-gi-čgis *you cut it in two for me;* bo-i-gí-ši·p *he cut it down for me;* nį-gi-péwį *I think for you;* ni-gí-xe *I bury it for you.*

B1. áx-ki-dutpe *I make a hole for him;* áx-ki-dusi *I take his;* yąx-ki-dusi *he took it from me (mine);* té-ki-ye *he killed another's property;* áx-ki-dádi *I collect it for him.*

6.3. The origin of Čiwere-Winnebago *k-ra- *suus, one's own* is unknown, but a pre-Čiwere-Winnebago *ki-ra- may be postulated as an ancestor. No other Siouan group has this form. Phonologically, the development is regular, as we find gla- in Čiwere, while the Winnebago form is kara-, with a few alternants, depending on the first vowel of the verb base: Č. glá-?ą *he carries own;* hé-gla-čige *I brush my own;* lé-gla-čige *you brush your own;* é-gla-ta *I see my own;* g-lúče *he takes his own*[6] W. ha-kára-xe *I bury my own;* ha-kara-í-čgis (ha-kara-gi-čgis) *I cut my own;* yá-kara-perez (= hi-ha-kara-) *I know my own;* ha-káwa-čgis *I am sawing my own;* ya-kúwu-sųč (= hi-ha-kuwu-wusųč) *I am near my own;* ha-kara-šiš (= ha-kara-rašiš) *I break my own with my mouth.*

6.4. PS 10 + 31 + V *reflexive* is found in Crow and Mandan, while no data was available on Hidatsa. The Crow paradigm is 1. wih-ci 2. rih-ci 3. ih-ci; this latter form can

[6] But note also the following "assimilated" forms in Čiwere: í-gwahunasgu *she knew me, her own;* wí-g-wahųŋe *he knew his own* (= wa-í-g-wahųŋe; i-wáhųŋe *to know*).

be regarded as conclusive evidence that PS free morpheme III *third person* was used as a prefix in some groups of the daughter languages. The Mandan paradigm is 1. mi-ki- 2. ni-ki- 3. ki-.

C. wih-ci-wa·warά·ci-k *I painted myself;* wih-cipúa-k *I jump;* ih-cipúa-k *he jumps* M. ki-máhi-here-ka?ehe *he made himself into an arrow they say;* ni-kí-paweš-ote-š *apparently you cut yourself;* ki-suk-i-here-ka?ehe *he made himself into a child they say.*

6.5. PS 20 + 31 + V *reflexive* is found in Čiwere-Winnebago: Č. á-ki-hda *I see myself;* i-há-ki-gloǰį *I struck myself with it;* ki-lí-luka *he stripped himself naked;* la-kí-č?e *you hurt yourself* (= la-ki-gi-č?e); ki-k?ų́ *he made himself into . . .* W. ha-kí-xe *I bury myself;* wa-kí-jį (= ho-ha-ki-) *I struck myself;* ha-ki-rúgas *I tear myself;* bo-á-ki-šip *I push myself;* ha-kí-čgis (= ha-ki-gi-čgis) *I cut myself.*

6.6. The data on PS 20 + 31 + 31 + V *reciprocal* must be considered incomplete, since the available material did not include forms in Winnebago nor the Ɋegiha group. The Ofo examples are the only ones that could be found.

M. ki-kí-kųta-ni *and they helped each other;* i-ki-kí-ro-kere-ka?ehe *they talked to each other they say* D. ki-čí-kte-pi *they killed each other;* o-kí-či-yusiča *they got into trouble with each other;* okóla-ki-či-ye *friends with each other, society;* also, ki-či-wa-tidą *I ride together with him;* ki-čí-yuta *he eats with someone* Č. a-kí-ki-pa *to meet each other;* u-kí-ki-t?awasgų *they talked it over it seems;* u-kí-ki-są *to help each other;* but also: ki-yá-ya-weneną *they kept stabbing each other* (reduplicated base) Of. ki-kté-hawe ~ a-kí-kte *they killed each other* ~ *they killed themselves.*

6.7. The sequence PS 20 + 32 + V *dative, for someone* resulted in a series of contracted forms in Dakota and Omaha-Ponca. In the following we list the paradigms and their meanings, suggesting possible ancestral sequences wherever feasible. These forms and those listed under **6.8.** below are what we may consider positive evidence for the existence of PS 32. *i-.

D. Contracted paradigms: či-. *I for you;* we- (*wa-i-) *I for him;* maye- (*ma-yά-i) *you for me;* ye- (*yά-i) *you for him;* ųye- (*ų-yά-i-) *you for us;* mi- (*ma-í-) *he for me;* ni- (*ni-i-) *he for you;* uni- (*ų-ni-i-) *we for you.* Other Dakota paradigms are formed with *ki-: ki- *he for him;* ų-ki- *he for us* ~ *we for him.* Many analogical formations create irregularities in Dakota, e.g. kičά *to mean one's own* (ka), but we-ča *I mean my own,* so that clear distinctions, either in form or meaning, are not always maintained.

OmP. Contracted paradigms: wi- *I for you;* e- (*á-i-) *I for him;* ewe- *I for them;* įθe- *you for me;* θe- (*θά-i-) *you for him;* weθe- *you for us;* į- (*ą-i-) *he for me;* θi- *he for you;* we- *he for us* ~ *he for them;* įθi- (*ą-i-θi-) *we for you;* į- *we for him;* weą- *we for them.* Special paradigms prefixed to u-bases are: uwí- *I for you;* ué- *I for him;* uáwaki- *I for them;* įwįθa- *you for me;* uθé- *you for him;* úwaθagi- *you for us;* úwaθaki- *you for them;* įwį- *he for me;* uθí- *he for you;* uí- *he for another;* ąguíθi- *we for you;* ąwą- *they for me;* uθí- *they for you;* uáwagi- *he for us;* uwagi- *he for them.*

6.8. PS 10 or 20 + 31 + 32 + V *reflexive* is attested by the following sequences in Dakota and Biloxi: D. ba-íči-ksa *he cut himself in two;* i-k-páptą *he turned himself over;* i-h-dáksa *he cut himself off;* o-íči-yά-pi *they paint themselves;* m-i-čí-č?aga *I made myself* B1. nk-íx-ki-dǫhí *I see myself;* įx-ki-dǫhí *he sees himself;* íx-ki-tuksadí *he cut himself with a knife;* y-ix-ki-tuksadí *you cut yourself with a knife;* nk-íx-ki-ktédi *I hit myself;* tehį-nk-íx-ki-yé *I killed myself;* nk-íx-ki-pópode *I wrap myself.*

6.9. Crow -ku and Mandan ku- *indirect object, dative* do not seem to be related to PS *ki- but must be considered a separate formation, whose ancestor may have been the PS base ku *to give;* moreover no PS antecedent has been found for Crow wat- ~ wac- *reciprocal.* No other Siouan group seems to have these forms, although it is expected that further examination of Hidatsa material may prove the presence of one or both of these morphemes in that language.

WORD TABOO AND LEXICAL CHANGE IN COAST SALISH*

WILLIAM W. ELMENDORF
UNIVERSITY OF WASHINGTON

0. Introduction
1. Twana name and word taboos
2. Effects of word tabooing
3. Implications for linguistic studies

0. In a recent study of the Salish linguistic stock Morris Swadesh[1] has suggested that the impressively greater diversity shown by those Salishan languages occurring on the Pacific Coast, relative to those east of the Cascade divide, is due to geographic factors which have made for reduced communication between groups long resident in the former area.[2] This idea has previously been suggested by several other students to account for the general heterogeneity of languages and stocks on the Pacific coast from California to Alaska.[3] It is the purpose of this paper to suggest that another, purely cultural, factor may have operated to increase the lexical diversity of at least some of the Coast Salish languages.

During ethnographic work with the Twana, a Salish-speaking people in the Hood Canal area of western Washington, the writer obtained data on a custom of word tabooing which operated into the late 19th century.[4] Within the memory of informants alive in 1940 this usage had resulted in the permanent elimination of several words from the Twana vocabulary. There is some slight evidence that the same type of word tabooing was practiced by other coastal groups speaking Salish languages. If the practice had been general in the Coast Salish area, and if it had operated over a considerable series of generations, it would have led to a special sort of lexical differentiation among local groups and would constitute a perturbing factor in the constant rate of drift assumed in Swadesh's study.

1. Twana word tabooing was an extension of the practice, common to the Twana and neighboring peoples, of tabooing utterance of the adult, kin-group owned, name of a dead person. To understand the way in which this custom operated it is necessary to consider briefly some general features of name usage in Twana culture. Twana personal names were of two principal types: (1) The *adult name*, u·′ bat. This was meaningless or untranslatable, bilaterally inheritable lineage property, borne by one living person in a kin group at a time, conferred or assumed formally after childhood, usually during or after adolescence. (2) The *nickname* or child name, s?ɔ·′ bat, conferred shortly after birth, of transparent meaning or descriptive, usually dropped when adult name assumed. Names of slaves and of some adult lower-class freemen fell into the nickname category. Only adult names were involved in name tabooing.

The name taboo applied to any unused

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[1] Salish Internal Relationships, IJAL 16.157–167 (1950).

[2] After assigning Bella Coola and Tillamook to separate divisions, Swadesh remarks of the remaining coastal languages (ibid. 165–6): "The greatest ramification is in the Coast Division. . . . The ramification of the Coast Division is not surprising in view of the accidented topography of the coastal region. . . . Populations here very early found themselves in relative isolation."

[3] E.g., A. L. Kroeber, Cultural and Natural Areas of Native North America, UCPAAE 30 (1939). After a very qualified citing of topography as a possible factor in Pacific drainage speech differentiation (172–3), Kroeber proceeds to a hypothetical topographic explanation (175–6).

[4] Field work sponsored by University of California, Department of Anthropology, and carried out during summers of 1939 and 1940.

adult name of a dead person, and remained in effect until the name was again assumed by a living bilateral kinsman of the deceased name bearer. Breach of the taboo was an insult to the surviving kin of the deceased.

Word tabooing was effected when the kin group of a recently dead person decided to extend the automatic prohibition against utterance of the deceased's name to some word in the language, not a personal name, which bore a phonetic resemblance to the dead kinsman's name. Such decision was taken only by a kin group of high-class position, and ordinarily only when the deceased had been a person of eminent reputation. The tabooing of a name-resemblant word was termed sta'bɑqɑb, and the word so tabooed was said to be asta'bɑqɑbdɑx^{w}, roughly, *it has now been put out of use*. The word might remain sta'bɑqɑb *out of use*, and eventually be forgotten, even when the name on which the taboo was based was reassumed subsequently by some living person.

To sta'bɑqɑb a word required a special inviting-in feast, sponsored by the deceased's kin group, and given some time after the death feast for disposing of the deceased's belongings. This word-tabooing feast followed a form usual for the type of intra-village announcement feasts termed syi'laχab, the principal features of which were limiting of guests to fellow-villagers of the sponsor, announcement of the step taken by a hired speaker, and distribution of gifts to the guests. The speaker told the purpose of the feast, mentioned the word to be put out of use, announced that further utterance of it would cause grief to the hosts, relatives of the deceased, and finally announced a substitute term to be used in place of the tabooed word.

Unlike the name taboo, which automatically operated on the death of anyone bearing an adult name, the word taboo went into effect only on the initiative of the deceased's kin, involved sponsorship of a formal feast, and seems only to have been exercised in cases where the deceased was a prominent upper-class person.

How many of the nine Twana-speaking village communities recognized and observed a word taboo initiated by a single kin group is not certain. Conditions for rapid spread of the observance were obviously greater after all Twana groups were brought together on the Skokomish reservation, in the 1860's. The taboo was always observed by all members of the village community of the deceased, for whom the sta'bɑqɑb feast had been given. Probably further extension of observance depended in part on relationship of the family initiating the taboo to upper-class families in other Twana communities. Failure to observe a word taboo instituted in another community may have been a factor in the slight dialect differences between the Twana of the northern Hood Canal, Skokomish River, and head of Hood Canal areas. Observance of word taboo at farthest extended only to the limits of Twana speech.[5]

2. The practice described, if it had operated over a considerable period, would have had certain predictable results. To determine these requires a brief analysis of some actual examples of 19th century Twana word tabooing. All cited here occurred within the lifetime of two informants born in the 1860's. (1) The death of χa'twas, a man of the Duhlelap Twana village community, changed χa'tχat *mallard duck* to hɔ'hɔbšəd *red foot*. The word taboo feast took place after the Duhlelap people moved from the head of Hood Canal to the Skokomish reservation in the late 1860's. The taboo was observed by all Twana speakers at Skokomish. One informant affirmed that

[5] Whereas use of family-owned personal names was not delimited by any speech-community boundaries. Owing to inheritance of names from either parental line, plus extra-community marriage, prevalent in the upper class, many Twana bore adult names previously borne by, e.g., Chehalis or Klallam-speaking ancestors.

in 1940 only a few older Skokomish remembered χa′tχat as a Twana word. (2) Death of čata′dad, a Skokomish man, changed sčata′s *rock* to k^{w}al^{ʔ}i′las *round-object* (-i′las) *for cooking*. This tabooing occurred later and has not been universally observed by Twana speakers. (3) The family of a Skokomish woman attempted, in the 1880's, to put out of use the loan word la′ys *rice*, on the basis of its resemblance to her English name, Eliza. The substitute term was not recalled. The attempt failed. Informants said that Eliza's family were "not very high-priced people," and that extending the old native name basis for word taboo to an English given name was felt to be "queer."

Comparing such examples with other data on proper names, several points of fact become apparent and must be borne in mind in assessing possible effects of word tabooing on language change. The adult name was semantically empty and bore only a phonetic resemblance to the word selected for tabooing. The term substituted for the latter was descriptive and translatable, constructed from the native stock of morphemes in the form stem plus affix. The term displaced, on the other hand, was at least sometimes, as in examples above, a form not morphemically analyzable by native speakers. The entire procedure—selection of the particular term to be tabooed, coining of a substitute term, and enforcement of observance—was consciously initiated by personnel of a particular kin group. General acceptance of the taboo seems to have depended in large part on the social status of the kin group proposing it.

We may expect to find as one outcome of such a practice the disappearance from the vocabulary of all morphemes phonetically resembling adult personal names.[6] That such a process was not completed in the 19th century is obvious from the presence of word taboo as an occasional but active custom.

An effect on personal names themselves would have been to empty them of semantic content. This process had apparently reached completion. No morphemes remained in the Twana lexicon by which the former meaning, if any, of adult names could be interpreted. That some had once been meaningful is probable. Many were formally stem-plus-affix formations (cf. la′χ^{w}cut, la′-χ^{w}qe′dəb, nayaxqe′dəb) or compounds. In a few cases meaningful name elements may still be identifiable. Several men's names seem to contain a suffix -či occurring elsewhere with the meaning *hand*. In a fairly large set of women's names a suffix-iċa is still translatable as *blanket*, though the meanings of the stems are unknown. Some interior Salish peoples bear names of similar form, but in these cases translatable and of transparent meaning.

Another expectable result of word tabooing would be the spread of derivative or compound descriptive terms through the lexicon, these terms originating as coined substitutes for tabooed words. Many common words in Twana have the appearance of non-original substitute terms, if this inference is correct. An example is sχ^{w}e′^{ʔ}šəd *deer*, analyzable as *split foot*; cf. hɔ′hɔbšəd *red foot* for mallard in example above. The impression of lexical change due to this factor is strengthened by cases in which the Twana term is an analyzable derivative, but terms for the same referent in neighboring Salish languages are not analyzable. With Twana sχ^{w}e′^{ʔ}šəd deer cf. Klallam ho′pt, Puget Sound (southern dialects) ske′g^{w}ac; with modern Twana hɔ′hɔbšəd *mallard*, cf. Puget Sound (southern dialects) χa′tχat, pre-1860 Twana χa′tχat. Comparative vocabularies seem to present numerous examples.

3. Swadesh's work, previously referred to, on degree of vocabulary differentiation within the Salish stock operates with per-

[6] This is of course posited on the substitute-term becoming a permanent item in the lexicon and the replaced (tabooed) word dropping out of use.

centages of shared elements (lexemes) in a basic list of 165 words, to determine degrees of difference. Swadesh further proceeds to establish differences in time depth between the various languages and groups of languages determined by the shared percentage method. In arriving at these historical conclusions he assumes a constant average rate of drift in the basic 165-item vocabulary for each language. The rate figure here is derived from comparison of English vocabularies over an approximate 1000-year period.

Swadesh's findings seem to the writer extremely valuable in clearly establishing on a statistical basis the relative amounts of lexical heterogeneity among the components of the Salish stock. This affords a sounder basis for classification of the Salish languages than previous less rigorous and more impressionistic attempts. However, historical interpretations of such facts as the very great lexical differences among languages spoken west of the Cascade Mountains, versus the striking lexical similarity of Salish tongues of the interior, must admit a special kind of vocabulary change among coastal Salish peoples, that resulting from word taboo, as a differentiating factor operating in addition to the constant rate of drift which Swadesh applies alike to all the Salish languages. We have no positive and some negative data on the occurrence of word taboo among Interior Salish speakers; positive evidence for its operation among the Twana and at least some of their coastal neighbors.[7]

It is possible, therefore, that the heterogeneous appearance of the coastal Salish languages and language groups may not be due entirely to relatively long separation and differential drift. An independent check on shared morphological features, and comparison with the results of Swadesh's check on lexical features should be of significance in this connection.

[7] The custom was denied to the writer by Columbia, Lakes, and Spokane informants.

KLEINSCHMIDT CENTENNIAL V: ESKIMO ALEUT CORRESPONDENCES

GORDON MARSH AND MORRIS SWADESH
NEW YORK CITY

1.1. The problem
1.2. Time depth
1.3. Phonemes of Proto Eskimo-Aleut
1.4. Aleut dialects
1.5. Main developments
1.6. Special developments
2. Basic vocabulary comparison
3. Cognate list
4. Further comparisons

1.1. While structural and inflectional similarities between Eskimo and Aleut are so numerous and so striking as to leave little doubt of the common origin of the two,[1] specific vocabulary correspondences are not too easy to find. This indicates that Eskimo and Aleut have been diverging for a long time. In other words, the original community speaking the common prototype language must have broken up long ago into two separate branches which gradually developed greater and greater differences until they present the divergent aspect we now find. It is not surprising that the inflections show a great deal of similarity, because it is natural for deeply rooted structural features to resist change. By comparison vocabulary changes more easily —through the borrowing of foreign words, through the creation of new native derivatives, through the dropping of old elements and through shifts in usage. As a result original common elements may drop out of one or more of the branches of a stock, or may be so changed in meaning that it is no longer easy to prove common origin. In the meantime, phonetic changes, accumulating over a long period of time, may make cognate words less and less similar. Phonetic dissimilarity would not be a serious obstacle to discovering cognates if there were only sufficient examples of each phonetic correspondence. For example, if we have a dozen cases in which otherwise similar words have t in one language and n in another language, we would conclude that these sounds diverged from a common form. But if we had only two or three examples and if meanings were also divergent and if the compared forms showed other unsolved phonologic problems, we could not feel sure of common origin. This is the kind of difficulty that one encounters constantly in attempting to discover the cognates of Eskimo and Aleut.

It does not follow that distant relationships cannot be proved. The fact is that, while some phonologic relations remain obscure, others stand out clearly. By systematically making use of the proved correspondences, one discovers new comparisons. Gradually the area of demonstrated correspondence is broadened and eventually one may hope to reconstruct a large portion of the linguistic prehistory. In the present article we make a beginning. We present about 140 fairly convincing comparisons, for which we are able to reconstruct the Proto Eskimo-Aleut form and indicate in detail the diverging phonetic changes leading to the modern forms. (An additional list in section 4 gives comparisons which appear to be probably related, but whose phonetic divergences we are not yet able to completely explain.) We offer this material on the one hand to corroborate the genetic relatedness of Eskimo and Aleut and on the other hand to help open the way for the future studies which will expand the body of comparisons and further clarify the prehistory of the stock.

[1] A recent article, not available to the authors while preparing the present study, is Knut Bergsland, Kleinschmidt Centennial IV: Aleut Demonstratives and the Aleut-Eskimo Relationship, IJAL 17.167–79.

1.2. As shown in a recent study by Swadesh,[2] the Eskimo dialects represent two distinct languages, for which the names Inupik and Yupik have been suggested. The degree of divergence of these two languages, measured by basic vocabulary correspondences, is such as to indicate between 1500 and 2000 years of separate development. Since reconstructed proto Eskimo is still not very similar to Aleut, it follows that the time depth of Eskimo-Aleut is considerably greater than 2000 years. To get an approximation of the period of separate development, we have taken all instances showing Inupik-Yupik cognates in the basic test vocabulary. This gives us 85 basic test words which presumably existed in proto Eskimo. We aline these with the Eastern Aleut words of like meaning and find that the Aleut forms seem to be cognate in 31 instances, or 36.5 percent. According to the glottochronological measure tentatively worked out by Swadesh,[3] this degree of correspondence implies about 6000 years of change. To this we add 2000 years representing the time depth of proto Eskimo, then divide by two since divergent change has taken place in both branches simultaneously. The estimate which results is that Eskimo and Aleut began to diverge roughly 4000 years ago. This figure agrees with the archeologically indicated time when the Aleutian Islands were first settled.[4] Thus, we conclude that the emigrants to the Islands from the mainland 4000 years ago spoke the same language as the population that remained on the mainland, and that the latter included the forerunners of the modern Eskimos.

1.3. The correspondences assembled in this paper indicate that Proto Eskimo-Aleut (P) had four vowels, i ə a u, and sixteen consonants, made up of six pairs of homorganic weak and strong phonemes and four unpaired sonorants, pv tð sz ɬl kγ qʀ, m n ŋ j. In the paired consonants, the strong members were voiceless stops and spirants, and the weak were voiced spirants. The word could begin with a consonant or a vowel, and could end in a consonant or vowel. Consonant clusters occurred only medially and were limited to two elements. Vowel clusters, not exceeding two elements, could occur anywhere in the word. Final consonants were limited to the nasals m n ŋ, the stop t, and the weak spirants. Evidently any consonant could occur initially except ŋ and j.

In tracing the development of Eskimo-Aleut phonemes, we attempt to give the product of each in proto Eskimo (E) and modern Eastern Aleut (A). It is understood that subsequent to the proto Eskimo period, there were further divergent changes in proto Inupik and proto Yupik, and still later in the local dialects, including Greenland-Labrador, Coronation-Mackenzie, Barrow-Inglestat, and Wales of Inupik, and southwestern Alaska and Siberia of Yupik. Likewise in the Aleut branch local peculiarities set off Western, Central and Eastern dialects from each other. The detailed development of Eskimo is given in Swadesh's article, the phonology of the Aleut dialects is summarized below.

1.4. The Aleut linguistic area covers all the region west of the point where the 160th meridian west longitude transects the Alaska Peninsula. This includes the Shumagin Islands, the tip of the Alaska Peninsula, and the Aleutian Archipelago. Modern information indicates three dialect groups for this stretch of over 1000 miles, with minor subdialect variations from island to island. The Eastern dialect now comprehends the remaining Aleuts of the Alaska Peninsula and Fox Islands as far west as Umnak Island, and of the Pribilof Islands 200 miles north of the Aleutians whither

[2] Morris Swadesh, Kleinschmidt Centennial III: Unaaliq and Proto Eskimo, IJAL 17.66–70.

[3] Morris Swadesh, Salish Internal Relationships, IJAL 16.157–67, especially 157–61.

[4] William Laughlin and Gordon Marsh, A New View of the History of the Aleutians, Arctic, Vol. 4, No. 1.

the Russians began transplanting eastern Aleuts in the early 19th century. The Central dialect takes in the Andreanof and Rat Islands (the latter known only from reports of Atka villagers since there have been no Rat Islanders for generations). This dialect must be spoken also by the Aleuts of Bering Island in the Commander group off the Siberian Coast, who were moved there from the Rats and Andreanofs by the Russians toward the beginning of the 19th century. The Western dialect comprises only the Near Island group, whence some have been transported to Copper Island in the Commanders. The boundaries between these dialects have changed in historical times. In the period of Bishop Ioann Veniaminov (1825–35) Umnak Island formed the eastern edge of the Central area and now forms the western edge of the Eastern area. How much the speech itself has changed can no longer be determined, but distinct features for each group still remain.

The dialects are most divergent in lexicon, least in morphology and syntax, and slightly divergent in phonology and there mainly in the consonant structure. They also show some differences in literary style and speed of utterance. In lexicon and phonology the Eastern and Central dialects resemble each other fairly closely and are more sharply divided from the Western. These divergences are considered by speakers of the former two dialects to render the latter completely unintelligible, which however was proved not to be the case. The Central dialect possesses several morphological features peculiar to it alone.

The chief phonologic differences between the Eastern, Central, and Western dialects of Aleut can be summarized as follows: 1) within the past 100 years the Eastern has lost h-, still recorded in Veniaminov's documents; 2) the Western dialect has one stop phoneme not in the other dialects, viz. ʈ, a cacuminal affricate with retraction but not retroflexion of the tongue; 3) Western lacks fricative phoneme δ of the other two dialects, showing instead j, corresponding to both P δ, P -z- and P -j-; 4) Western -ʈ- corresponds sometimes to Eastern and Central -δ-, sometimes to -s-, sometimes to -ʀt-; 5) Eastern and Central w- have Western m- from P m-; 6) Eastern and Central medial -w- show Western -v-, and Eastern and Central -mC- correspond to Western -vC-, going back to P -v-; 7) in the Western dialect certain final morphemes lose the final vowel, or vowel plus -n or -ŋ, or vowel plus -γ of the other two dialects, leaving word-final stops and consonant clusters, inadmissible in Eastern and Central; 8) in certain forms of the 2nd person singular in verbs and of the plural in nouns the Central dialect has the ending -s for -n of the Eastern and Western, in other forms all dialects show -n; 9) the Eastern dialect has the primary word-accent on the next to last vowel and a secondary accent on the first syllable, the Central dialect has primary accent on the first syllable and secondary accent on next to last vowel, the Western dialect has only one accent, on the first syllable.[5]

1.5. The phonologic changes from Proto Eskimo-Aleut to primitive Eskimo and Aleut can be given in a series of formulas covering the main developments in those positions which involve the least complication. For consonants we show divergent development in initial, intervocalic and final positions by the use of hyphens, for instance, 's gives A c-s-' means original s became Aleut c in initial position but remained s in intervocalic position; it did not occur in final position. For each formula we indicate the actual examples by number referring to the cognate list in section 3 below.

i gives E A i. See 1–8, 18, 24, 30, 32, 35–9, 51–2, 57, 66, 68–73, 81–3, 88–9, 94–6,

[5] For some Central dialect information Marsh is beholden to Professor Knut Bergsland of Oslo University through personal correspondence.

103, 108–10, 115–6, 120, 125, 129. One case of ii: 70. ia gives E ia A ii: 89.

ə gives E ə A a. See 4–13, 23, 26–7, 33, 38, 41–2, 46–7, 50–4, 74–6, 80, 83–5, 94–5, 97, 106–7, 114, 132–3, 135. E ə usually becomes i in the modern dialects.

a gives E A a. See 2, 14–29, 31, 34, 37, 41–3, 48, 55–7, 59–61, 64, 67, 77–80, 83, 86–90, 98–103, 109–16, 121, 123, 125–31, 134–5, 137. For aa see 15, 21, 22, 40. au gives E au A aa; see 56, 78, 121.

u gives E A u. See 10, 19–21, 26, 29–34, 39, 44–9, 58–62, 64–5, 69–71, 73, 76, 91, 101–5, 117–21, 130–1.

p- gives E p- A h-. See 35–49. We have not yet identified any cognates with p in medial position.

-v- gives E -v- A -m-. See 14, 29, 41, 46, 50, 59, 60, 80, 88, 94, 102, 113. ava remains in Eastern Aleut as awa; see 14, 113.

t gives E t A t-t-n. Initial see 51–61; medial 8, 16, 64; final 50, 63.

ð gives E t A ð. Initial see 64–5; medial 17, 20, 66–7, 69, 70, 76. Western Aleut has j.

s gives E s A c-s-. Initial see 68–80; medial 30, 68, 71.

z gives E s A s-ð-. Initial see 81–91; medial 1.

-ɬ- gives E -ɬ- A -l-. See 21, 31, 57, 83. Eskimo ł becomes l in Inupik but is preserved in Yupik.

l gives E A l. See 2, 3, 19, 92–3, 109.

k gives E A k. See 9, 18, 37, 42, 47, 51, 89, 94–105.

γ gives E k-γ-γ A γ. See 4, 15, 19, 31–2, 60, 66, 72–3, 89, 95, 97, 105–7, 115. For final -γ see 15, 66, 105–6, 115. We assume tentatively that γ like ʀ may have occurred in initial position, even though as yet we have no cognates illustrating it.

q gives E A q. See 43, 90, 108–20, 125.

ʀ gives E q-ʀ-ʀ A ʀ. Initial see 121; medial and final 1, 8, 10, 11, 20–1, 24, 28, 31, 33–4, 38, 48–9, 57, 60–2, 64, 70, 78–80, 88, 101, 130, 133, 135.

m gives E m A w-m-m. Initial see 123; medial 23, 114; final 124.

n gives E n A t-n-n. Initial see 125–31; medial 5, 12–3, 24–5, 38, 85, 96, 101, 132–35; final 105, 136. Aleut may have retained initial n in exclamations, and A nana- *suffer pain* may be based on such an exclamation (cp. E naˀa cry of pain).

ŋ gives E A ŋ. No initial occurrences; medial see 6, 26, 39, 52, 102, 116, 137. No cognates with original final ŋ found.

-j- gives E A -j-. See 7, 27–8, 34, 48–9 78, 101, 103, 120. After i Eastern and Central Aleut have ð where Western retains j, see 7, 110. -uja- seems to give Eastern Aleut -uða- in 48.

1.6. Initial i was lost in Aleut before z and j (see 1, 7) and initial ə disappeared under certain conditions not yet determined (see 10, 13). In medial position vowel loss in Aleut responds to the rhythmic form of the word, mostly affecting vowels before the accented syllable. Possibly something similar was involved in the instances of initial loss. Primitive Eskimo lost ə after t in certain positions; the modern dialects, particularly Yupik, show more extensive losses.

To a limited extent we attempt to account for special changes restricted to given phonetic conditions. For instance, one cognate set, E nuna, A tana *land*, shows Aleut assimilation of vowels in two successive syllables (n- to t- is regular in Aleut). We infer that the change was nuna to nana to tana, and that the presence of initial n in both syllables was the special condition that favored the assimilation. Other special changes are mentioned in connection with the cognate sets illustrating them.

For rhythmic loss of initial vowel in unanalyzable trisyllabic stems in Eskimo see list of further comparisons 139, 141–2, 150, 167.

2. Following are the Aleut-Eskimo basic vocabulary items used in determining the degree of relation, as explained in **1.2.** Presumed relatedness and unrelatedness are indicated by plus and minus signs in parentheses. The Aleut form follows the English, and the Eskimo follows the Aleut.

all husuʀ, tama (−), *animal* alɣaʀ, uŋuvajuʀ (−), *arm* cujuʀ, talʀ (−), *ashes* utɣin, aʀjaʀ (−), *belly* kimmlaʀ, aqajaʀ (−), *big* aŋunaʀ, aŋə- (+), *bird* saʀ, tiŋmiaʀ (−), *bite* kiiɣ-, kiɣə- (+), *blood* aamaɣ, auɣ (+), *blow* (*mouth*) husmi-, supi- (—?), *breath* anʀ-, aniʀ- (+), *cold* (*weather*) qiŋanaʀ, niŋlʀ- (−), *cry* (*weep*) qiiδa-, qija- (+), *dead* asʀa-, tuqu- (−), *dog* saaɣlaʀ, qikmiʀ (−), *drink* taaŋa-, əmiʀ- (−), *ear* tutusiʀ, siun (−), *eat* qa-, niʀə- (+?), *egg* saammlaʀ, manniɣ (−), *eye* δaʀ, ijə (+), *fat* (*grease*) caδuʀ, uqjuʀ (−), *father* aδaʀ, ata (+), *fire* qiɣnaʀ, əkəniʀ (−), *fish* qaʀ, niqə (+?), *five* caaŋ, talimaʀ (−).

fly iɣa-, tiŋə- (−), *foot* kitaʀ, itiɣaʀ (−?), *grass* qiiɣaʀ, əviɣ (−), *hair of head* imliʀ, miłquʀ (+), *he* iŋa, iŋə (+), *head* kamɣ-, natquʀ (−), *heart* kanuuʀ, uŋuvan (−), *here* waan, maani (+), *hill* qajaʀ, qaqqaʀ (+), *husband* uɣiʀ, uvi (+), *I* ti-ŋ, uva-ŋa (+), *ice* kδaʀ, siku (−?), *inside* il-, ilu (+), *kidney* δaʀtuʀ, taʀtu (+), *lie down* quju-, inaʀ- (−), *little size* kiŋ-, mikə- (−), *little amount* kiŋ-, iki- (+?), *liver* aaʀiʀ, tiŋuʀ (−), *long* aδuʀ, takə- (−), *man* (*human*) anʀaʀiʀ, ənjuk (−), *man* (*male*) tajaʀuʀ, aŋun (−), *mother* anaʀ, ana (+), *mouth* aɣilʀiʀ, qaniʀ (−), *name* asaʀ, atəʀ (+), *new* taʀaδaʀ, nutaʀaʀ (+?).

night amaɣ, unnuɣ (−), *nose* iɣuʀ, qiŋaʀ (−), *not* -laka, -niʀitə- (−), *one* ataqan, atausiʀ (+), *other* (*different*) uɣla-, avła (+?), *river* ciʀanaʀ, kuəɣ (−), *sea* alaʀuʀ, imaʀ (−), *see* uku-, ta- (−), *sharp* (*blade*) qicaʀ-, ipiɣ- (−), *skin* qacʀiʀ, amiʀ (−), *smell* (*tr*) umta-, na- (−), *snow* qaniɣ, qaniɣ (+), *suck* umcu-, miluɣ- (−), *tail* hitɣiʀ, paməjuʀ (−), *ten* hatiʀ, qulit (−), *this* wa, ma- (+), *three* qaankun, piŋaajut (−), *throw* anu-, iɣətə- (−), *tooth* kiiɣusiʀ, kiɣun (+), *tree* jaaɣaʀ, napa (−), *two* aalaɣ, malʀuɣ (−), *vomit* aliɣ-, miʀiaʀ- (−), *water* taaŋaʀ, əmiʀ (−), *we* tuman, uvaɣut (+?), *what* alqu-, suna (−).

when qana, qaŋa (+), *where* qata, nani (−), *white* qummaʀ, qa- (−), *who* kiin, kina (+), *wife* ajaɣaʀ, nuliaʀ (−), *wind* slaʀ, anuʀə- (−), *wing* iɣasiʀ, isakuʀ (−), *woman* ajaɣaʀ, aʀnaʀ (−), *you* (*sg*) tɣi-n, ilvi-t (+), *you* (*pl*) tɣi-ci, ilvi-si (+).

3. The following Eskimo-Aleut comparisons comprise cognate sets whose phonologic relations seem fairly clear:

1. Inupik isiʀ *smoke*, A δiʀ *soot*, P iziʀ. 2. E ila *part, companion;* A ilaʀ *part, friend, relative;* P ila. 3. E ilu *inside*, A il- *in*, P il-. 4. E iɣ-viɣ, A iɣa-naʀ *cliff*, P iɣə-. 5. Inupik iniʀ- or inəʀ-, A ina- *finished*, P inə-. 6. E iŋə *he;* A iŋa *he, that one near speaker;* P iŋə. Also cp. E ika *yonder*, E ilvi-n *thou*, Yupik ili *he*. 7. E ijə, A δaʀ *eye*, P ijə.

8. E ətiʀ, A itiʀ *anus*, P ətiʀ. Also cp. A icaδaʀ *buttocks*, evidently diminutive of itiʀ; A itiʀ instead of atiʀ perhaps by assimilation of vowels. 9. E əkəʀ, A akajuʀ *strait*, P əkə-ʀ, əkə-juʀ. 10. Yupik əʀə-, əʀuʀə- *wash;* A ʀaajaʀ *sweat-bath*, ʀula- *wash;* P əʀə-, əʀu-, 11. Yupik iʀniʀ (from əʀə-nəʀ) *day*, iχtī- (from əʀə-tə) *day comes*, (Siberia) iχtä *daylight;* A aʀaδaʀ (from əʀə-δə-) *sun;* P əʀə-. 12. Inupik (Greenlandic) -n-it *from*, A -an (e.g. kuɣaan *from on it*, naɣaan *from within it*, etc.), P -ən. 13. E ənə *lodging*, A na- *inside* (e.g. na-ɣan *inside it*, na-m-iŋ *inside me*), P ənə.

14. E ava *that one far away*, A awa *that one at a short distance*, P ava. 15. E auɣ *blood, bleed;* A aamaɣ, Western Aleut aaviʀ *blood;* P aavəɣ. 16. E atausiʀ, A ataqan *one*, P ata-. 17. E ata, A aδaʀ *father*, P aδa (some Eskimo dialects with affective lengthening of one of the vowels or reduplication of the second syllable). 18. E aki- *opposite side, price;* A aki- *recompense, cost, unto;* P aki-. 19. Yupik (Nunivak) aɣalunaχ *polar-bear*, A aɣaluʀ *tooth, fang, tusk*, P aɣalu-. E perhaps means *one having fangs*. 20. Inupik aqtuʀ- *carry a load*, A aʀʀu- *carry on the back*, P aʀδu-. A shows assimilation of the consonants. 21. E aaʀłu (Siberia-Nunivak aχłu, Barrow aʀlu, Greenland aaʀluk), A aaɣluʀ *killer-whale, orca*, P aaʀłu. 22. E aam, A aaŋ *yes*, P aa. 23. Yupik amłiχ *many;* A amnaʀuʀ *much, many;* P amə- (cp. 26). 24. E aniʀ- *breathe, live,*

anuʀi- *wind*; A anʀ- *breath, live*; P aniʀ-. 25. E aana *mother, grandmother*; A anaʀ *mother*; P ana. Eskimo dialects with affective reduplication of vowel or second syllable. 26. E aŋə-, A aŋunaʀ *big*, P anə-, aŋu- (cp. 23.) 27. Inupik aipaʀ *wife, companion*; A ajaɣaʀ *wife, woman*; P ajə-. 28. Inupik ajaq *housepost*, ajaupiaq *walking-stick*, Yupik ajaʀuʀ *walking-stick*; A ajaʀuʀ *staff (walking or ceremonial)*; P ajaʀ- *worked pole or stick*. Possibly cp. Eastern Aleut jaaɣaʀ, Western Aleut jjaaɣaʀ *wood, tree, stick*.

29. E uva-ni *here*, uva-ŋa *I*, una *this*; A uma *outside of here*; P uva. 30. E usi *load*; A usi- *load into a boat*; P usi-. 31. E uɬuvaʀ, A uluɣaʀ *cheek*, P uɬuɣaʀ. 32. E uvi, A uɣiʀ *husband*, P uɣi. 33. E unəʀ; A unʀ- *axilla, armpit*; P unəʀ. 34. E ujaquʀ *neck*, ujaɣ- *stretch the neck*; A ujuʀ *neck*; P ujaʀ. A seems to show vowel assimilation.

35. E pi- *say;* A hi- *say, tell, invite*; P pi-. 36. Inupik pisuɣ- *walk*, pitaʀ- *enter*, pikiaʀ- *go out*, Yupik (Nunivak) pikitə- *walk*; A hit- *go out, exit*; P pi- *to go*. 37. E pika-ni *up there*; A hika *that one just above or inland*; P pika (also cp. E piŋaŋnaq *wind from inland*). 38. Inupik piniq or pinəq *grass padding in boots*; A hinaʀ *wick of a stone-lamp*; P pinəʀ *dry grass*. Possibly cp. A hinuʀ *sod, sward*. 39. Inupik piŋu- *push, strike, punch*; A hiŋu- *pierce, stab*; P piŋu-. Also cp. E miŋqu- *sew*, A hiŋuqaʀ *needle*. 40. E paaŋ *entrance, door, river-mouth*; A haac- *at the entrance, at the mouth*; P paa-. 41. Inupik pav-na *that beyond the hills*, pava-ni *east, upward*; A hama *that one remote invisible*; P pavə *yonder*. 42. Inupik pakə *up in the sky, there beyond*; A haka *that one up above or inland*; P pakə. 43. Inupik paʀutik (du) *two-bladed paddle*, paʀuʀ- *to paddle*; A haqadɣusiʀ *two-bladed paddle*; P paʀ-, paq- (for interchange of ʀ and q, cp. E niʀə- *eat*, niqə- *food*). 44. Inupik putuɣ- *pierce*, putu *hole*, Yupik (Nunivak) puɣuu- *sting*; A hu-naʀ *wound*; P pu-. 45. Inupik pussuk *thumb and forefinger*; A hutaʀ *thumb*; P pu-. 46. Inupik pupik *skin eruption*; A humtaʀ *swelling*; P puvə-. 47. Inupik pukəʀ *caribou's belly-fur*; A huqðun (pl) *moss, bird-down*; P pu-. 48. Inupik pujaʀ *half-dried blubber*; A huðaʀ *dried fish or meat*; P pujaʀ. A with -uða- from -uja-. 49. E pujuʀ *soot, smoke, fog*; A hujuʀ *smoke*; P pujuʀ. Also cp. A huɣsʀiʀ *dust*.

50. E -vut; Eastern Aleut tu-man, Central Aleut ti-mas *we*; P -vət. E shows vowel coloring by adjacent consonant.

51. E tikiʀ or tikəʀ *index finger*; A tiklaʀ *middle finger*; P tiki or tikə. 52. E tiŋə- *to fly*, tiŋmiaʀ *bird*; A tiɣɣlaʀ *eagle*; P tiŋə- *fly*. 53. Inupik tipi-, tipa- *taste, smell*; A taʀa- *test, taste, smell*; P tə-. 54. E -tə- internal transitive; A -t- transitive; P -tə-. 55. E (East Greenland) taaq, (Kuskokwim) taʀu *man*; A tajaʀuʀ *man (male)*; P tə-. 56. Inupik tauqsiʀ-; A tauja-, taaja- *trade*; P tau-. 57. E taɬiʀ *arm*; A taliʀ *limb, branch*; P taɬiʀ. 58. Inupik tusaʀ-, A tut- *hear*, P tu-. 59. Inupik (Wales-Barrow) tuapak *pebble, gravel*; A tummuqulaʀ *round stone, pebble*; P tuva-. 60. Inupik tuuɣaʀ, Yupik (Nunivak) tuxkaʀ- *walrus or mammoth tusk, ivory*; A tumɣaʀ *ivory, hard bone*; P tuvɣaʀ. 61. Inupik tuutaʀ *labret, cheek-bone, lower incisor*; A tutaʀ *earring* (probably originally also *labret*); P tuutaʀ or tutaʀ. A possibly with shortening of uu on analogy with tutusiʀ *ear*. 62. E -tuʀ indicative or gerund, *one who is*; A -tuʀ *one who has greatly*; P -tuʀ. 63. E -t, A -n plural, P -t.

64. E taʀtu, A ðaʀtuʀ *kidney*, P ðaʀtu. 65. Inupik tukkuʀ *host, guest*, tujuʀ- *invite a guest*; A ðuʀtaasiʀ *guest*; P ðu-. 66. E -tiɣ *of you two*, A -ðiɣ *you two*; P -ðiɣ. 67. E -taʀ-, A -ða- *customarily*, P -ða-.

68. E -si, A -ci *you (pl)*, P -si. 69. E situaʀ *beluga, bowhead-whale*; A ciðuʀ *beaked-whale*; P siðu. E has the suffix -aʀ *large*. 70. E siitquʀ, A ciiðɣiiðaʀ *knee*, P siiðʀu-. A possibly from ciiðʀu-iðaʀ, some diminutive derivation. 71. Inupik suvaɣ *fish-spawn*; A cisuʀ *fish-roe*; P suʀ-, sisuʀ. 72. Inupik (Barrow) sijjak *fox-hole*; A ciɣtiʀ or ciɣcaʀ *burrow, den*; P siɣ-. 73. Inupik siuʀaʀ, A cuɣuʀ *sand*, P siɣuʀ. A shows vowel assimilation. 74. Yupik (Unaaliq)

ciRĭ-, A caci- *cover*, P sə- (cp. 77). 75. E siiR- *taste sour*; A caknaR *sour*; P sə-. 76. Yupik ctu- *claw, nail*; A cuδu- *scratch*; P səδu-. A with vowel assimilation. 77. E sapə- *to block*, sapa *door*; A caci- *cover up, shut door*; P sa- (cp. 74). 78. E saujaR, A caajaγ (du) *drum*, P saujaR. Kenai Indian caujak borrowed from Yupik. 79. E saγumiγ *left hand*, Inupik savitə- *touch with hands*; A caR *hand, lower arm*, caγamγuuRiR *right-hand*; P sa, saγəməγ. 80. E saRpiγ *whale-tail*; A cmaR *whale-, fish-tail*; P saRvə-. A with loss of first vowel and simplification of cluster cRm-.

81. E sitamat, A sicin *four*, P zi-. 82. E siquγ- *break, tear*; A siγ- *break up, break in two*; P zi-. 83. E siła *weather, sky*; A slaR *wind, weather*; P ziła or zəła. 84. Inupik sinik *sleep*, (Barrow) sinaktuq *dream*, siqu- *close eyes in sleep*; A saRa- *sleep the night*; sŋaγ- *dream*; P zə-. 85. E sinə *edge*, sani *space beside*; A snaŋaa *its edge, its side, beside it*; P zənə. 86. E saki- *an in-law*; A satimγiR *father-in-law*; P za-. 87. E sama *down there, down towards sea*; A saka *that one down below, down at or on the sea*; P za-. 88. E saviγ *knife*, satqu, satku *weapon*; A samiR *stone-knife, dagger*, saγiR *sharp-edged thing*, sajγiγ (du) *bow and arrow*, Western Aleut saviR *iron*; P za-, zaviR. 89. E sakiaγ, A sakiiγ *rib*, P zakiaγ. 90. Inupik saqalikitaq, saRalikitaq *butterfly, moth*, (Barrow) taqalikisaq *butterfly, moth, arctic poppy*; A saqucikδaR *butterfly, moth*; P zaq- (also cp. A saR *bird*). 91. Inupik suRuR- *wrestle*; A su- *take hold, grasp, pick up*; P zu-.

92. E liRliR *black brant*; A laγ *cackling-goose*, laγγilqaR *Canada goose*; P ləR. 93. Inupik -ŋŋi-laR- *not*; A -laka- *not* (*independent construction*), -laγa- *not* (*subordinate constr.*), ulu- *not* (*negating noun*), Western and Central Aleut ula-; P -la-.

94. E kivə- *sink, lower*; A kim- *descend, sink*; P kivə-. 95. E kiγə- *bite*, kiγun *tooth*; A kiiγ- *bite*, kiiγusiR *tooth*; P kiiγə-, kiiγu-. 96. E kina, kia; A kiin (perhaps from kiana) *who*; P kina, kia. 97. E kikmiγ or kəkmiγ *heel*, kiŋu or kəŋnu *stem, behind*; A kaγalkuR *heel*, kaγaaluR *stern of kayak*; P kəγə-. 98. E kakəγ *mucus, blow nose*; A kanun (pl) *nasal mucus*; P ka-. 99. Inupik kavjaR, Yupik kaχkaχ; A kaŋa- *top, top of head*; P ka-. 100. Inupik kaR, kaŋəR *point, cape*; A kaδa- *point, tip, cape, ahead of*; P ka-. 101. E kannujaR, A kanujaR *copper*, P kannujaR. Possibly recent loanword from E to A. 102. Inupik kaŋuq, Yupik (Nunivak) kaŋuχ, (Siberia) kaŋγuq *snow-goose*; A kamγaaŋ *emperor-goose*; P kaŋvu-R, kaŋvu-γaan. 103. Yupik kaji-, kaju- *muscle, strong*; A kaju- *muscle, strength*; P kaji-, kaju-. 104. E -ku- subjunctive; A -ku- contemporary; P -ku- (or perhaps A -γu- *if, whenever*). 105. E -kun plural of demonstratives, -kuγ dual; A -kun plural of demonstratives, -kuγ dual; P -kun, -kuγ. 106. E -əγ, A -γ dual, P -γ or -əγ. 107. E -nə-γ- ablative case; A -γ-an *from* with demonstratives (e.g. wa-γ-an *from this or here*, iŋa-γ-an *from that or there*); P -γ-, -nə-γ-, -γ-ən.

108. E qiliR- *tie*; A qiisa- *tie, bind*, qiisaR *thong*; P qi-. Cp. A qiiγaR *grass* (? binding material). 109. E qilaγ *sky*, qila *ceiling*; A qilaR *early, morning, morrow*; P qila. 110. E qija-, A qiiδa- *weep*, P qiija-. 111. E qavsiR *how much*, qaqu *when*, qaŋəvaR *when*; A qana, qanajaam *when*, qanaaRiR *what one*, qanaaŋ *how much*; P qa-. 112. E qaəŋ *top*, (Greenland) qaqqaq *hill*, (Kuskokwim) qamiq *hill*; A qajaR *high, hill*, qaja- *grow*; P qa-. 113. Yupik (Siberia) qavaqsiq *young walrus*; A qawaR *sealion*; P qavaR. 114. E qamlu, A qamtiR *eyebrow*, P qamə. 115. E qaniγ, A qaniγ *snow*, P qaniγ. Cp. also A qanaR *winter* (from qaniγnaR). 116. Inupik (King Id.) qaŋiRaq *corner*, (Nome) qaŋi- *suffer from cramp*; A qaŋi- *bend, fold*; P qaŋi-. 117. E qutu, A qulaR *collar-bone, clavicle*, P qu-. 118. E quγjuγ, A qunkiR *swan*, P qu-. 119. E quła- *upper part*; A qusa- *above, up, upper*; P qu-. 120. E qujiR- *cough*; A qujq- *cough, spit*, qujcin (pl) *a cough, spittle*; P quji-.

121. Inupik qauma *daylight*, quu- *light*; A RaaniR *dawn, aurora borealis*; P Rau-.

122. E -ʀ, A -ʀ absolute noun ending and 3rd pers. sing. (uni-personal) of verb, P -ʀ.

123. E ma; A wa, Western Aleut ma *this here*; P ma. 124. E -m, A -m superordinate, P -m.

125. E niqə *food, fish*; A qaʀ *food, fish*, qa- *eat*; P niqə- (A qa- from tqa-; also cp. E niʀə *eat*). 126. Inupik naniʀ- *crush with foot*; A taδa- *step on, tread*; P na-, naδə-. Also cp. Nunivak nii- *crush with foot*. 127. E naŋtə- *sick*, (Greenland) naŋiγ- *suffer relapse*; A taki- *sick*; P na-, naŋə-, naki-. Cp. also A nana- *suffer pain*, maybe based on na cry of pain (E na?a). 128. E napa *tree, stick*, Inupik naŋiʀ-, Yupik napa- *erect*; A taajʀuuδaʀ *post, an upright* (from ta- + ajaʀu + -əδa- diminutive); P na- (cp. 28). 129. E naniʀ *light*; A tani- *get light*, taniʀtaasiʀ *lighted lamp*; P nani-. 130. Inupik nanuq, A tanʀaaʀ *bear*, P nanuʀ. 131. E nuna *land, habitation*, Inupik nutqaʀ- *halt, rest*; A tanaʀ *land, earth, habitation*, tana- *settle*; P nuna. A with vowel assimilation. 132. E -ni or -nə, A -n locative case, P -nə. 133. E -nəʀ, A -naʀ action noun, P -nəʀ (also cp. 135). 134. E -na objective case sing. of demonstr.; A -n sing. of demonstr.; P -na. 135. E -naʀ *characterized by*; A -naʀ agent noun, indefinite past "tense"; P -naʀ (also cp. 133). 136. E -n, A -n *thou*, P -n.

137. E -ŋa *I*; A -ŋ *I, my*; P -ŋa.

4. The following further comparisons appear fairly likely, though some phonologic details are still unexplained:

138. E isi, isiγ; A itγaʀ *membrane of drum*; P isiγəʀ. 139. Yupik (Nunivak) suuʀiχ, A isuʀ- *harbor-seal*, P isuuʀ-. 140. E ikiγ- *little amount, few*; A kiŋ- *little amount or size*. 141. E qajaʀ, A iqjaʀ *kayak*, P iqajaʀ. 142. E miłquʀ *hair, fur*; A imlin (pl) *head-hair*; P imiłiʀ. 143. Inupik ini-, A iŋŋli- *hanging*, P iŋji-(?) (cp. 155).

144. Inupik iŋitə- *sit down*; A uŋut- *squat, sit down, be sitting*. 145. Yupik (Nunivak) ucuqcax *a nail*; A asʀuʀ *nail, peg*; P əsuʀə. 146. Inupik (King Id.) iγsi- *ground trembles*; A aδγilaγ *earthquake*; P əzγi-, əγzi-.

147. aiviq, A amγaaδaʀ *walrus*. 148. E avła *other*; A uγla- *other*, Eastern A aalaγ, Western Aleut uulaγ *two*; P avła, uvła. 149. E atəʀ, A asaʀ *name*, P aδjəʀ. 150. Inupik saγlu-, A aδalu- *prevaricate*, P əzaŋlu-. 151. Inupik aγlaγ-, Yupik alŋaγ- *write*; A aluʀ- *mark, write*.

152. E uu-tə-, A una- *cook*, P uu-. 153. E -utə-, A -usi- *instrument*, P -uδjə- (also see 149). 154. E uqjuʀ *blubber*; A aʀδaʀ *bladder of oil*; P uʀjəʀ, əʀjur. 155. Inupik uniʀ- *tell*; A uŋikaʀ, Western Aleut uγjikaʀ *traditional tale*; perhaps P uŋji- (also see 143).

156. E supə- *fire gun, blow*; A husmi- *blow*; P pusə-, supə-. 157. E pi-, A maajuʀ *possession, thing*, P vəi; or cp. E pi *thing*, A hii- defective demonstrative only in hiiŋun *there*, hiikun *those*.

158. E tamlu, A cmaluʀ *chin*, P tjaməlu. 159. E tuʀłu *throat*; A cuqaʀ *gullet*; P tjukə-. 160. E tunu- *space behind*, tunnuʀ *back-fat*, tunusuγ *back of the neck*; A cunuqaʀ *nape of the neck*; P tjunu-. 161. E tiŋə- or təŋə- *fly*; A taγa- *bird alights*; P δə-.

162. E siłi- *rub, grind*; A cumli- *whet, sharpen*; P səvłi-. 163. Inupik saγγaq *short fur of caribou*; A cŋaʀ *fur*; P saŋə-. 164. E siku, A kδaʀ *ice*, P səku, kuzə.

165. Inupik kiuʀiaq, A juʀjan (pl) *aurora borealis*. 166. Inupik kivəγ- or kəvəγ-; A kumsi- *lift*; P kəv-. 167. E kana-ni *down there*, kanna *he down there*; A ukna *that one just below here*; P ukana. 168. E itiγaʀ; A kitaʀ *foot*.

169. E nutaaʀ, nutaʀaʀ *new, young*; A taʀaδaʀ *new, fresh*; P nutaʀaʀ (A possibly from tutaʀa- with loss of first syllable by haplology).

KLEINSCHMIDT CENTENNIAL VI: CAN ESKIMO BE RELATED TO INDO-EUROPEAN?

L. L. HAMMERICH
UNIVERSITY OF COPENHAGEN

The Dutch linguist Uhlenbeck was, many years ago, the first to raise the question of relations between Eskimo, conceived as an originally Asiatic language, and Indo-European. Some few linguists have discussed the problem, none with such authority on the Eskimo side as the Danish philologist Thalbitzer, who, to be sure, has criticized details of Uhlenbeck's presentment, but on the whole approves of the idea. Uhlenbeck has been a little vague as to the character of the assumed relations; certainly he is not content with the theory of loans only, but on the other hand he will not go in for straightforward genetic relations. Even Thalbitzer is not averse to the idea of "acculturation", meaning old cultural influences which may have pervaded a large part of Ancient Asia, affecting as well Fenno-Ugrian as Eskimo and Indo-European. At any rate, Thalbitzer and Uhlenbeck agree upon some sixty cases of verbal similarities showing relations of some kind or other.

Even IF we apply a very severe criticism, allowing for what may be fortuitous, putting aside possibly onomatopoetic words, or words from the intimate family circle, some cases of amazing similarity do remain. I shall mention a few.

In Eskimo nutâq means *new*; the root is *nu-, as is seen, e.g. in the velar derivation nukaq *his younger brother or her younger sister*. We cannot help thinking of IE *neu̯- in Gk *νέος*, Lat. novus, Goth. niujis, Skr. náva-; with a velar derivative Gk *νέαξ* *young chap*, Lat. novīcius, OSl. novakŭ *a new one*.

In Eskimo we have a root *tu- with a series of velar, dental, and labial extensions, e.g. *tuk- *to shock, bump against, pierce, rest upon* (G. tugpoq; cp. tûgâq *tusk*, tûkaq *harpoon*), *tuti- *he treads on it* (G. tutivâ, WE tutiga), *tupi- *be struck, be astonished* (G tupagpoq *is astonished*, tupik *a fabulous monster*, tupilak *a shaman's familiar ghost*), *tumi *a trace* (G tume).—In IE we have the root *teu̯-, sometimes with the prefix s- and derived with velar, dental, and labial determinatives of corresponding meanings, e.g. with a velar suffix Gk *τύκος hammer, chisel, battleaxe*, OHG dûhen, OE þýn *to press*, OSl tukalo *lance*; with a dental suffix Lat. tundō, Goth. stautan, Skr. tudáti *to push, butt, kick*; with a labial suffix Gk *τύπτω I strike*, Lat. stupeō *I am struck, motionless, amazed*, or Lett. staupe *horse-beat, tread of a horse*.

A third instance is the Eskimo root *tu- *to give*, e.g. G túkoRpoq *is munificent, is liberal*, tujorpâ *gives him to eat*, with n-derivative G tunivâ *endows him with* constructed with the modalis, e.g. savingmik tunivâ *endows him with a knife, gives him a knife*—to be compared with IE *doH in Gk δίδωμι, Skr. dádāmi, Lat. dō, and perhaps especially a construction like Lat. dōnāre aliquem aliquā rē from the old n-derivative Lat. dōnum, etc.

A fourth instance is Eskimo ulik *a cover*, ule *rising tide*, to be compared with the IE root *u̯-l (Skr. válati *rolls*, ūrmí *wave*, vṛṇóti *covers, wraps*, Gk *εἴλλω*, Lat. volvō. We must bear in mind that it is generally assumed that in Pre-Indo-European the vowels proper (e, o, a) were not phonemes, but could be introduced at will before and after the consonants and that Eskimo has a qualitative apophony very much like that of Indo-European.

In comparing two languages we must take the respective semasiological habits into account. Thalbitzer in his criticism of Uhlenbeck and others has sometimes pointed to peculiarities of Eskimo semasiology. It is

not astonishing that Eskimo has many very concrete words, and derive abstract notions from concrete ones. But an amazing habit is that of having seemingly a negative notion as the base whence the positive notion is derived, e.g. ayoRpoq *is bad*; with negative suffix ayúngilaq *is good*, saperpoq *is impossible, cannot*, sapíngilaq *he can*; naluvoq *is ignorant*, nalúngilaq *knows*; alianarpoq *is sad*, with a different negative suffix alianaípoq *is pleasant*; mingugpoq *is dirty*, minguípoq *is clean*, ipeq *dirt*, evqípoq *is clean, pure*.

This may be characteristic of the Eskimo state of mind, which is the opposite of self-asserting; but more important for the comparison with other languages is the fact that in most cases there is quite a concrete meaning behind the negative abstract notion. The base of ayoRpoq *is bad*, is *ayu- *is or comes out of reach* (L ayuvoq *runs away*, G ayúpâ *kicks a football*, WE ayuk *football*). The base of saperpoq *cannot*, is *sapi- *the way is impassable* (G sapivâ *he blocks the way to him*). Behind naluvoq *does not know* we find *naluk- *is or comes out of sight*, in WE with the sense of *to juggle*, in G in one derivative *throws it away*, in another *swims*. The words for *being dirty* are based on minguk *paint*, and ipeq (G iperaq) *lamp-wick*. Evidently we have no right to compare G mingugpoq directly with Lat. mingere *urinare*, because the original sense of the Eskimo words belong to another sphere.

A further characteristic instance is the Eskimo root *alak- *is out of the light*, as a noun hence *the shady side* (G alángoq; seqineq alákalerpoq *the sun begins to appear on the shady side*, i.e. *the sun rises*), and actively *he looks away from it* (G alarpâ; alarsimáput *they have for some time been looking away from each other*, i.e. *they are enemies*; WE alarqun *a means of depriving of looking away* (?), i.e. *a commandment*).

Such notions as *being impassable, being out of reach, being out of sight, being out of the light*, seem at the same time so coherent and so original (characteristic of the Eskimo fishers and hunters) that a comparison with the more active and positive notions of Indo-European becomes difficult.

In passing on to a comparison of the morphological structure of the two languages, we notice that Indo-European is characterized by root-modification in such a way that most of the derivative suffixes have no definite meaning: who can exactly tell what is the sense of i̯o-, u̯o-, r-, l-stems, for instance? Further Indo-European knows prefixation and nominal composition. These, however, are no surely inherited features of Indo-European, since prefixes are very independent in the oldest IE languages, e.g. Homeric Greek and Vedic Indian, since in the same ancient strata the first part of compounds is not so rigidly uniform as later on, and since Hittite has only a very weak development of composition. Eskimo, on the other hand, has no old compounds and—with one special exception—no prefixation. It has a highly developed, indeed, an exorbitant development of suffixes with mostly a very well defined meaning.

I shall give one example, taken from a Greenlandic folk-tale of a quarrel between a raven and the fox, where the latter is the victor; at the end it is said of the fox: oqausigssaerutitísasorileratdlardlune. oqaq is *tongue*, oqarpoq *speaks*, with -use(q) *speech*, -gssa(q) *future speech*; thus far we can compare IE derivation: in Latin it might be possible out of lingua to form *linguāre, from that *linguātum, and from that again *linguātūrum. But Eskimo goes much further; the following suffixes are -erut- *deprives him of something*, -tit- *makes, gets, effects*, -s′ a- *will, shall*, -sore- *supposes*, -ler- *begins*, -atdlar- *provisionally*, -lune, reflexive sing. of the appositional mode; thus literally: *provisionally beginning to suppose that he will have deprived him of future speech*, i.e. *supposing now that he has for the time being silenced him*.

Indeed, this is excessive derivation, but in comparing Primitive Indo-European and Eskimo, nothing prevents us from assuming

that both presuppose a system of root-modification through a not too long series of significant suffixes; only this system must have developed on different lines in the two groups of languages. Naturally, we cannot know with any certainty if this has been the case. But we are entitled to say that in the important field of word-structure nothing blocks the way of comparison.

In regard to the second part of the morphological structures, we find strange and exciting facts.

In old IE languages like Greek and Sanskrit the verbal flexion is characterized by the formal oppositions between active and medium, present and perfect, imperfective and perfective tenses, moods with primary and moods with secondary endings. It is evident that this rather complicated system must be at the base of the verbal flexion of all IE languages known of old. But inside this system there are signs of early developments from a simpler system, e.g. the non-general extension of the augment-tenses, the so-called preterito-presents (which point to an ancient non-tense distinction between present and perfect), the blurred semasiological distinction between active and medium, the lack of functional distinction between verbs with a thematic vowel and verbs without it. And the IE languages discovered in this century have confirmed our suspicions: even if we cannot yet decide at which points exactly the rather simple verbal system of Hittite reflects more ancient stages and where it displays losses, it is clear that sometimes, at least, the verb of Hittite presupposes an older and simpler system, strongly deviating from the complex verb of the other IE languages.

In the nominal flexion the eight well-known cases of Ancient Indo-European are curiously incoherent. Some cases are purely syntactical, indicating different sorts of subjects or subordinate members of a group of words, others are more or less localistic (e.g. the ablative, the locative), and sometimes we find an inextricable mixture of both (especially in the accusative, which is at the same time the case of the dependent subject and of the goal (terminalis)). Furthermore, the s-suffixes for one sort of nominative and for the genitive show a formal relation which has no reason in the actual meaning of these cases in Indo-European. Neither is there any reason for the apparent relation between the m-suffix of the accusative and of the genitive of the plural, or for the fact that besides the nominative in -s we have a nominative without any suffix (or with a laryngeal suffix, resulting in a long vowel, as in the r- and n-stems). The cases of Hittite have important deviations from those of the other IE languages, e.g. the same suffix for the genitive of the singular and the plural.

As several linguists, among them Holger Pedersen and Uhlenbeck, have seen, there is only one solution of these riddles: the IE case system must be outgrown ruins of an older, fundamentally different case system. But before attempting a solution, we must consider some more riddles. One is the nouns having the same so-called thematic vowel—a back vowel, o—in apophony with a front vowel, e, as the verbs, and, as in the verbs, the thematic vowel of the nouns having no function whatsoever. Especially in the most ancient stages of Indo-European, in Homeric Greek, in Vedic Indian, and above all in Hittite, nouns and verbs have very often forms either with a thematic vowel or without it, and this without difference in sense or function. The conclusion imposes itself: the thematic vowel must be the last remnant of a form which had a real function in a part of speech which Indo-European displays sometimes as nouns and sometimes as verbs.

Another intriguing phenomenon is that IE adjectives have a propensity for assuming the thematic vowel: adjectives are inclined to be "o-stems". But in the older stages of Indo-European, Homeric Greek, Vedic Indian, and especially Hittite, there

is at the same time a curious tendency towards using a construction with a superordinate member where later a subordinate adjective is the given thing, e.g. to say *the strength of Hector* instead of *the strong Hector*, *depth of the soil* instead of *deep soil*, *enmity of the king* instead of *the inimical* or *hostile king*.

Turning now to Eskimo, we find here a rather simple, well coherent case system, bearing exclusively upon what Otto Jespersen called junction, i.e. the correlation between superordinate and subordinate members of the word group. Eskimo has four fundamental cases: (1) the ABSOLUTIVE, the neutral case, which is neither subordinate nor superordinate; it is characterized by absence of suffix or by a suffix -q (the uvular occlusive). (2) the SUPERORDINATIVE, hitherto called suffix of the 3. person, characterized by a back vowel -a in apophony with a front vowel, -e. (3) the SUBORDINATIVE, by others called transitive or relative, expressing subordination—like the general sense of the IE genitive—and characterized by an -m (becoming in G a -p). (4) the DUPLEX, hitherto called transitive or relative of the 3. person, expressing that a noun is subordinate to one noun and superordinate to another, characterized by a suffix -at/-it (in G sometimes secondarily -ata/-isa).

From Case 3, the subordinative, 5 localistic cases are derived, expressing localistic varieties of subordination and corresponding to prepositional phrases, as in the case of the English prepositions in, towards, from, with, along—thus LOCATIVE, TERMINATIVE, ABLATIVE, MODALIS, VIALIS.

Still more strange to an Indo-European mind is, however, the fact that the Eskimo verb is fundamentally a verbal noun and that the cases, to some extent, are found in verbal as well as in nominal forms.

Case 1, the ABSOLUTIVE, is the base, the lexicological form, e.g. nanoq (*a/the*) *bear*, and may be used in nominal sentences, e.g. nanoq una *this is a bear* (with no word for *is* and with *bear* as the predicative). If used with a verbal noun in certain moods, it signifies that the notion of this verbal noun "exists", "has reality", "is", e.g. tikípoq does not simply signify *arrival*, but *arrival is, there is arrival, somebody is arriving* or *somebody has arrived*. In exact parallelism to nanoq una *this is a bear*, nanoq tikípoq signifies *the arrival is a bear*, i.e. *a bear has arrived*; and if it is evident from the context who is "the arrival", then tikípoq may mean *he has arrived*. Through suffixes a subject of the 1., 2., and—in some moods—the 3. person (reflexive) may be expressed, e.g. tikípunga *there is I-arrival*, i.e. *I have arrived*.

Case 2, the SUPERORDINATIVE, in nominal nouns signifies what is determined by a subordinative, corresponding to what in English is determined by a genitive or a prepositional phrase: *skin* or *the skin* in English word groups like *the bear's skin, the skin of the bear, its skin* is in G amia, whereas the lexicological form, the absolutive, is ameq.—In verbs of what we call a transitive meaning the superordinative is used parallel to verbal nouns in the absolutive. Thus from the root *taku- *to see* the superordinative takuvâ signifies *the sight exists, somebody is seeing something* (but there is no word or suffix for *somebody* or *something*). Corresponding to nanoq tikípoq *the arrival is the bear*, nanoq takuvâ signifies *the sight is the bear*, i.e. *somebody sees the bear*, and if it is evident from the context who the *somebody* is, we may translate: *he sees the bear*.—In this way we understand that the absolutive does not only correspond to the subject and the predicative of intransitive verbs, but also to the object of transitive verbs.

Case 3, the SUBORDINATIVE, in nominal nouns signifies what is subordinate, generally corresponding to an English genitive or a prepositional phrase; e.g. in nanup amia *the bear's skin* or *the skin of the bear* nanup is *the bear's* or *of the bear* as against the absolutive nanoq; likewise piniaRtup is *the hunter's* or *of the hunter* as against the absolutive piniaRtoq, etc.—A very important feature

is the combination of a nominal noun in the subordinative with a verbal noun in the superordinative, e.g. piniaRtup takuvâ *of the hunter the sight exists, the sight of the hunter exists*, i.e. *the hunter sees something*, and if this *something* is known, we may translate: *the hunter sees it*. In this way we understand that in combination with a nominal noun (in the superordinative) the subordinative is to be translated as a genitive, in combination with a verbal noun (in the superordinative) as a nominative, viz., as the subject of a transitive verb.

As said before, such a verbal noun of a verb of transitive meaning may have a predicative which we translate as an object, and there is no obstacle to this construction if there is a subordinative in combination with the verbal noun, e.g. piniaRtup nanoq takuvâ, literally *of* (or *for*, or *with*) *the hunter the bear is the sight*, i.e. *the bear is the sight of the hunter, the bear is seen by the hunter, the hunter sees the bear* (it is no use discussing which sort of subordination we should prefer from the point of view of our languages, or if we should consider the Eskimo verb more passive or more active). Quite logically, the corresponding suffixes of the 1. and 2. person are the possessive suffixes; compare for instance from eRneq *son*: eRneRa *my son*, and from the root signifying *to see* of which takuvâ is the superordinative: takuvaRa *my seeing exists*, i.e. *I see something, I see it*.

Case 4, the DUPLEX, in nominal nouns corresponds to a genitive or a prepositional phrase which is determined by another genitive or prepositional phrase, e.g. piniaRtup e R n e R a t a igdlua *the hut of the son of the hunter, the hut of the hunter's son*.—Some pronouns have only this form, e.g. the stem tama(q) *all, whole* is without a personal suffix tamât, literally perhaps *in its entirety, in the whole*, i.e. *all*.—In verbal nouns of some moods the duplex is used to express clauses, e.g. tikigpat literally perhaps *at his (her, its) arrival*, i.e. *if he (she/it) comes, when he comes*; tikingmat *because of his arrival*, i.e. *as he came*, or *when he came*. What we translate as the subject must be in the absolutive, if there is no object, e.g. piniaRtoq tikigpat *when the hunter comes*, but in the subordinative, if there is an object, e.g. piniaRtup igdlo tikigpago *when the hunter comes to (reaches) the hut*.—Thus neither in pronouns nor in verbs the implied—possibly very abstract—superordination is expressed. In such cases we must therefore say that the essential feature of Case 4 as for Case 3 is its inherent sense of subordination.

In confronting the Eskimo case system with the IE cases, we observe that we may solve some of the riddles of these in assuming that a case system of the Eskimo type was at the base of the IE complexity.

We have in Eskimo two cases, the absolutive and the subordinative, both of which we must translate by the IE nominative; in this way we may understand that the two suffixes of the IE nominative, the s-suffix and the zero- (or laryngeal-) suffix presuppose two different cases. By the way, it should be noted that the two cases cannot be the nominative proper and the essive: both in Indo-European and in Eskimo the cases of the subject and of the predicative are always the same.

We have in Eskimo a case with two forms, the subordinative proper and the duplex, which we must translate sometimes as a genitive and sometimes as a nominative (the case of the independent subject) or as an accusative (the case of the dependent subject). In this way we may understand the relations between the IE suffixes of the s-genitive and the s-nominative, and between the accusative and the m-genitive.

Subordination presupposes superordination, and in Eskimo we have clearly a case of superordination in both nouns and verbs, viz., in verbal and nominal nouns. If, as assumed by several linguists, Pre-Indo-European had a case of subordination corresponding to the Eskimo one, it must have had a case of superordination, too. And if this case

was found in both nominal and verbal nouns of Pre-Indo-European, we must expect to find rests of it in both nouns and verbs of Indo-European. But after the breakdown of the Pre-Indo-European case system and after the ensuing or simultaneous rigid delimitation of verbs and nouns in Indo-European, these rests of the case of superordination must have lost every function. In this way we may understand the functionless thematic vowel of IE nouns and verbs. And this thematic vowel being, in fact, a rest of the case of superordination is perhaps indicated by the observation that IE adjectives are apt to have the thematic vowel, but in the old stages of Indo-European sometimes date back to superordinate forms.

Even if, in this way, it may be made probable that a case system of the Eskimo type is at the base of IE complexity of cases, this is no proof of genetic relation. In fact, case systems of the Eskimo type are found in other languages, too.

Indo-European

u	e	i	a	$\overset{\circ}{H}$
u̯	r, l	i̯		$\overset{\circ}{H}$
m	n			
p	t		k^{i}, k, k^{u}	
b	d		g^{i}, g, g^{u}	
	s			

Eskimo

u	i^{2}	i	a	
m	n		ŋ	
p	t	c	k	q
u̯(F)	l(L)	i̯(š)	g(X)	R(Ʀ)
	s			

But we cannot help at the same time to observe some similarities of the phonemes expressing, in Eskimo and in Indo-European, the morphemes of case (and of a few other categories).

The Eskimo case of superordination is characterized by a back vowel, -a, in apophony with a front vowel, -e/-i—like the thematic vowel of Indo-European which we have tried to explain as the rest of the Pre-Indo-European case of superordination.

The Eskimo case of subordination proper is characterized by an -m, which reminds of the -m of the IE accusative and of one IE genitive—in their function corresponding to an Eskimo case of subordination.

When the secondary Eskimo case of subordination, the duplex, is characterized by a t-suffix, and one IE nominative and one genitive—in their function corresponding to the Eskimo case—have an s-suffix, we must take two other forms into consideration. In Eskimo there is the peculiarity that both the plural and the 2. sg. have a t-suffix, too. And in Indo-European both the plural and the 2. sg. have correspondingly an s-suffix!

We have thus in three incoherent forms an IE s-suffix and an Eskimo t-suffix; this can hardly be an accident. Typological correspondence is no sufficient explanation; we have to board the decisive question of the possibility of a genetic relation between the phonemic systems of Indo-European and Eskimo.

The Primitive phonemic systems of Indo-European and Eskimo may very briefly and roughly be sketched as follows:

In Indo-European r, l, m, n may be vocalic, and all voiced consonants have laryngealized forms which are no mere combinatory, but real phonemic variants. This applies not only to the well-known mediae aspiratae, but to the sonants as well.

In both Indo-European and Eskimo there is an opposition between a series of fundamentally voiceless occlusives and a corresponding voiced series. In Eskimo this latter series is realized as spirants—and so voiceless spirants become possible combinatory variants—and there is syncretism between the labial, dental, and palatal spirants and

the corresponding sonants; there is only one liquid proper (1); the delimitation between c, š, and s is uncertain. Eskimo has not only uvular consonants, but even a tendency to uvularization.

Even if we have here to omit mention of the peculiar Eskimo rules of the beginning and the end of the word and of consonant combinations, it is evident that the correspondence between the two phonemic systems is not bad. In several cases, though, one Eskimo sound has to be compared with more than one IE sound; the inverse case is e.g. the fact that the two IE nasals must be compared with the 3 nasals of Eskimo.

But if there is to be a genetic relation between Indo-European and Eskimo, the decisive question is evidently how the Eskimo system can account for the IE laryngeal and laryngealization, and inversely how Indo-European can account for the Eskimo uvulars and uvularization.

A tentative comparison of the words concerned has shown that it is impossible to solve the problem by simply equalizing the IE laryngeal and the Eskimo uvulars. But a possible way out is afforded through Hittite. In this IE language laryngeal articulation has been given up, the laryngeal has developed into a velar spirant which has sometimes absorbed a labiovelar, too.

Correspondingly it might be possible that Pre-Eskimo knew at least one laryngeal and laryngealization of consonants, but that laryngeal articulation was given up, the laryngeal consonant combining with the labiovelars into the Eskimo uvular consonants.

To illustrate this possibility, I shall quote a few comparisons, the three of which have partly been adduced by Uhlenbeck and Thalbitzer.

IE *anH *spirit, to breathe* (Skr. aniti *breathes*, anila- *breath*, *wind*, Lat. animus, etc.)—Eskimo *ani²q(-R-) *to breathe*; *wind* (G anerpoq *breathes*, anore *wind*, Nunivak anuqa *wind*).

IE *gu̯(e)naH *woman*, *wife* and *agu̯na- *lamb*, *kid* (Gk γυνή, OI kona, Skr. gnā, Arm. ken, OIr. ben, Goth. qino, OE cwene, and Gk ἄμνος, Lat. agnus)—Eskimo *aRnaq *woman*, *mother* and *eRneq *child*, *son* (G. WE aRnaq, and G eRneq *son*, WE eRniaqânga, lit. *he childs me*, i.e. *he is my father*).

IE *u̯ek:*u̯ok:*uk *to speak*; *voice* (Lat. vōx, vocāre; Skr. vákti, uktá-, etc.)—Eskimo *uqa- *tongue*; *to speak* (G oqaq, oqaRpoq, etc.).

IE *u̯egu̯:*ugu̯ *humid*, *soaked* (Gk ὑγρός, Lat. (h)ūmor, (h)ūvidus, OI vǫkr)—Eskimo *uq- (1) *is humid, soaked* (WE oqoq, M uxcuq, G oRssoq *blubber*), (2) *is soaked and therefore heavy*, + a negation: *uqit- *is not heavy, is easy to lift* (G oqípoq, WE oqitoq), + one negation more: G oqimaípoq, M uqumaitoq *is not easy to lift, is heavy*.

In this manner we might even parallelize the IE nominative without a suffix or with a laryngeal as suffix and the Eskimo absolutive without a suffix or with an uvular (-q) as suffix.

Further investigations will have to go into details concerning similarities and differences of IE and Eskimo apophony.

I think, however, that what has here been adduced entitles us linguists to raise the question: Can Eskimo be Related to Indo-European? But even if not unimportant facts seem to support this view, we cannot till now with any certainty answer the question in the affirmative. Cooperation of many linguists will be needed to solve the problem definitely, because special knowledge will be necessary, not only of Indo-European and Eskimo, but of American-Indian and Palaeo-Asiatic languages as well.

And above all, we linguists need the help of the anthropologists to determine the possible epochs of connection between the people speaking Primitive Indo-European and the people speaking Primitive Eskimo.

MORPHOPHONEMICS OF ISLAND CARIB (CENTRAL AMERICAN DIALECT)

DOUGLAS TAYLOR
DOMINICA

1. Processes incidental to prefixing
1.1. The thematic prefix
1.2. Possessed nouns and denominal adjectives
1.3. The attributive prefix, g(a)- ~ h(a)-
2. Processes incidental to suffixing
2.1. V_1-V_1 > V_1
2.2. The participial morpheme, and other instances of vocalic harmony and of vowel-loss
2.3. Nouns and nominal bases
2.4. Vowel sequences avoided across morpheme boundaries
2.5. The suffix -(u)ga
2.6. The locational suffixes -ha, -g(u)ia, -gVta, -gVra
2.7. Syllabic reduction
3. Processes incidental to compounding
4. Processes affecting nasals and nasalization
4.1. Nasalized vowels and nasal consonants
4.2. Nasalization and stress
4.3. Loss of nasalization
5. Basic, prefixial, and suffixial forms of the person-markers

1.1. The prefix i- ~ e- ~ a- is associated with thematic verb-stems and verbs derived from adjectives and—more rarely—from nouns. The first alternant i- is employed in some but by no means all cases where the first root-vowel is /i/; thus ímira (± -ha) *to stab, to spear*, from the predicative adjective mirá *stabbing, stabbed;* but ádina (± -gua) *to embark*, from the predicative adjective diná *embarking, embarked.* On the other hand, e- may be—and usually is—employed whenever the first root-vowel is /e/, although it remains, unlike i-, in free (or idiolectic) alternation with a-; thus (with alternative forms in a-) ésera *to pour out*, from se *pouring out, poured out;* ebélura *to enter*, from belú *entering, entered;* ebégira *to beg* (*pardon or a favor*), from the loanword bégi *begging, begged* (Eng. beg); egeléca *to lock*, from the loanword gelę *key* (Fr. clé); eleskuéleha *to school*, from the loanword leskuéla *school* (Sp. escuela). In all other cases, a- is the only permissible form of this morpheme; thus ásora *to roast* and ásoha *to sting*, from so *ardent;* áhuia *to rain, to pour down*, from húia *rain.* The phonemic shape of the thematic prefix in included position remains unaffected by whatever prefix marker of person, of privation, or of attribution may precede it.

1.2. Most nouns and some adjectives have relative bases from which possessed nouns or privative or attributive adjectives (these last not occurring with an adjectival stem) may be formed by the addition of a prefix person-marker, of privative m(a)-, or of attributive g(a)- ~ h(a)- (see **1.3** below). The formation of such bases with respect to their absolutive forms varies considerably, and is best described under the morphology of the noun. In general, however, it may be stated that parenthetic (a)- of the privative, attributive, and pronominal prefixes of first and third persons plural is actualized when these forms are combined with a base having as initial either a parenthetic vowel (which is then lost), a stable (non-parenthetic) -u-, or a rising diphthong. The various combinations follow, P representing any prefix marker of person, privation, or attribution; V any base-initial vowel other than stable (non-parenthetic) -u-, and VV any sequence of base-initial vowels constituting a rising diphthong: P- + -(V) > PV as in l- + -(ł)la *contents* > líla *his/its contents;* P(a)- + -(V) > Pa as in m(a)- + -(ł)la *contents* > mala *empty;* P- + -u > Pu as in h- + -ų ~ -úni *to, for* > hų *to or for you;* P(a)- + -u > Pau as in g(a)- + -ų ~ -úni *to, for* > gáuni *having purpose/aim;* P- + -VV > PVV as in b- + -iábi *coming* > biábi *thy coming;* P(a)-

+ -VV > PaVV as in h(a)- + -iábi *coming* > haiábi *their coming;* P- + -V > PV as in n- + -iri *name* > níri *my name;* P(a)- + -V > PV as in u(a)- + -iri *name* > uíri *our name.*

The bases -iábi *coming* and -ídi *going*—the latter having -údi as a free alternant—are irregular in that while the markers of first and third persons plural appear as ua- and ha- with both, the privative m(a)- may appear as m- with either (although not with -údi). As g(a)- does not occur with the latter bases, it may be presumed that they are adjectival. Examples of adjectives having bases from which possessed nouns and privative adjectives may be formed are: so *ardent* > -(í)so > líso *his/masc.—its ardour;* míri *brilliant* (homophonous with the denominal privative adjective míri *nameless*) > -(í)miri > límiri *his/masc.—its brilliance;* buídi *good* > -(u)buídu > mabuídu *not good,* tubuídu *her prettiness,* or *her intimacy* (*good relationship*). The longer form of the locative nominal base, -úni ~ -ų, (which has no absolutive form), is usual in privative and attributive derivatives, but obsolescent with the pro-nominal prefixes. Exceptionally, when possession is indicated otherwise than by a prefix, a relative nominal base may occur as a free form; and in such cases a parenthetic base-initial vowel is actualized. Thus ka/kaų isábute lèa *whose soap is this?* Cf. tisábute *her soap,* uasábute *our soap,* masábute *without soap* < -(i)sábute, the relative base of the loan-noun, sábų *soap.* (Alternations affecting nasalization are described under **4** below.)

1.3. A comparison of such forms as háta *bloody, bleeding,* (cf. homophonous háta *their blood*), máta *bloodless, not bleeding,* from -(í)ta, hítao *blood*— —with others like gála *having contents* (or *meaning*), mála *empty* (or *meaningless*), from -(í)la, ílao *contents or meaning*——must convince us that h(a)- is an alternant of the marker of attribution (homophonous with the third person plural pronominal prefix), of which the common form is g(a)-. Unlike the latter, attributive h(a)- does not occur with thematic verb-stems, and is found with only a few nominal bases. I have noted the following: -anáime *violence,* -anúfude *fear,* -ára *heat,* -arítagu *thought, remembrance,* -arúga *dawn,* or *next day,* -ére *strength,* -ísię *attractiveness,* -(í)ta *blood;* and their derivatives, like -árauga *heat* as a general phenomenon of the weather or environment opposed to -ára *heat* of some particular item, -éregu *difficulty;* the form -arúga is in all probability itself derived from áru *edge, border,* (see **2.5** below). From such bases (which form possessed nouns with the appropriate pronominal prefixes) attributive adjectives are derived by the addition of h(a)-; thus hanáime *violent,* hanúfude *afraid,* hára *hot,* hére *strong* (cf. mére *weak*), héregu *difficult,* etc. In some cases, the adjectival meanings are not obvious, as in the case of harúga *tomorrow,* harú *white,* while the importance of the base -ísię becomes clear only when we learn that it is employed in cases where we should use a positive or negative phrase involving the verbs *like* or *love.* So, for example, hísiętu nų *I like/love her* means literally *she-is-attractive* (or *she-has-attractiveness*) *for -me;* and mísięti bų *you don't like him/it—he-is-unattractive to-thee.* That the employment of h(a)- in place of the alternant g(a)- is in no way related to the function of the resultant forms is obvious from a comparison with gíbetu nų *fem.-it-is-(too)-much for-me,* míbeti bų *masc.-it-is-(too)-little for-thee,* from gíbe *much/many,* míbe *little/few,* from the relative nominal base -íbe *like, kind* (nn.), as in tíbegu *her own kind* (*or species*) (in which -gu, a nominal and adjectival suffix, functions as a collectivizer).

2.1. Geminate vowels occur within but not across morpheme boundaries, and constitute disyllabic sequences in which one vowel always bears and the other always lacks stress. They may be inherent to the morpheme, as in the case of iméedi *jealous,* or occur in only one alternant, as with -(ú)ute, hu *hoe* (from Fr. houe); alíiha *to read,* li *reading, read* (from Fr. lire); adǫora *to strike* (*of clock or bell*), with which com-

pare dǫ́hali *it has struck*. It may be worth noticing that in the last three examples the extra syllable avoids the occurrence of homonyms or near homonyms; thus túute *her hoe*, túte *she coming* (a locator); alíiha *to read*, aríha *to see or look;* adǫ́ora *to strike* (*the hour, etc.*), adóra *to maim, to dock* (*cut short*)—a nasalized vowel usually becoming oral when followed immediately by /r/ (see **4.3**).

When, as a result of affixation, geminate vowels might occur, only one vowel appears. Thus the perfective aspectual suffix -(h)a is lost when added to úa *no, none, not there*, láma *hungry*, mála *empty or meaningless*, giving: úali *there is no more of, masc.-it* (literally *he/it has become none/out*), lamádibu *thou'rt hungry*, málali *he/it has become empty or meaningless*. With these compare, from sų *all, every*, belú *entering, entered*, maráo *childless*, the analogous perfective verbs sų́hali *he/it has finished*, belúhadibu *thou hast entered*, belúali *he has entered*, maráohali *he has no more children*. In the former set, the aspectual function is borne entirely by the copula, as is obvious when we compare úati *there is none of m.-it*, úali *there is no more of m.-it*, with sų́ti *it is all/every*, sų́hali *he/it has finished* (literally, *he/it has achieved/become all*). Similarly, when the suffix marker of third person plural is added as a pluralizer to eiéri *man*, we get eiérių *men;* when -ianu *they are* is added to átiri *how much/many?* we get átiriánu *how many are they?;* and when -uagu *upon* is added to ubáu *world*, we get ubáuagu *upon* (*the*) *world*. In this respect, enclitics behave in the same way as suffixes, so that when the contemporary tense particle iébe is added to tídi *her going*, we get, in a strictly phonemic transcription, tídiebe *at the time of her going, as she went.*[1] Although actually a compound, mention may be made of the fusion of the plural conjunctive auxiliary verb, -(u)má, with the conditional auxiliary, -(h)amuga, hamúga, to form a desiderative auxiliary; thus aríha uamámugaų *would that we might see her*.

2.2. The participial base of the thematic verb is formed by adding -u, -i, or -o to the thematic stem, except when the latter ends in detachable -h, which always appears as -ha. The choice of one of these alternants depends largely on vocalic harmony, -u being considered as basic, since always "correct" (though often very unusual) except after detachable -h. Thus n-áfar-u *my beating*, l-é-se-r-u *his pouring*, b-adóg-o *thy doing/making*, t-á-so-r-o *her roasting*, t-á-so-ha *her stinging*, t-aríh-i *her seeing*, u-ábug-u *our chasing away*. These are free forms, but when suffixes are added to them the choice of participial morph would appear to depend rather upon what follows than upon what precedes, still influenced by vocalic harmony, or by a preference for a back vowel before a labial consonant when there is a choice. Thus we find such alternations as: nadáirini *my finding him*, but nadáirunu *my finding her;* náigini *my eating masc.-it*, náigunu *my eating fem.-it;* naríhigidíbu *I still see thee*, naríhubadíbu *I'll see thee*.[2]

When the thematic suffix is -d or -g or non-detachable -h, (and perhaps, although certainly much more rarely, in some other cases) the participial morpheme may be lost (reduced to zero) before the durative aspectual suffix -ią. Thus nágudiąi *I'm burning masc.-it*, from á-gud- *burn*, gudá *burning, burnt;* nadógiąu *I'm doing/making fem.-it*, from adóg- *do, make*; naríhią *I'm looking*, from aríh- *see, look*. In such cases, the inclu-

[1] However, I prefer to continue writing such forms as enclitics, since forms which are enclitic in some positions may have their own stress in others.

[2] The participial morphs -u, -i, -o, never occur before the repetitive morpheme -ia; thus narí-haiabádibu *I'll see thee again*. Since they normally occur with this verb-class, but only after the last thematic suffix (as: áun- *heed*, áunab- *reply*, áunagod- *send* (*for, intr.*), and invariant áunaha *send* (tr.)), -ia, repetitive, should probably be classed with -god, causative, -rog, limitative (*only*), as a secondary thematic suffix, which, because of its phonemic shape, dispenses with the necessity for a participial morpheme in the same way as the latter may be dispensed with in some cases before -ią in durative thematic verbs.

sion of the participial morpheme is never "incorrect" and after -r is usual, as in táfarųią *she is beating*, táfaruiąi *she is beating him*, (see **4.2**). After detachable -h, only -ha can occur; thus tásohaiądibu *fem.-it is stinging thee*.

More or less free alternation of /a/ ~ /e/, /u/ ~ /o/, and of loss of unstressed vowel in penultimate syllable may be illustrated by the denominal thematic verb eleskuéleha *to school*, from the loan-noun leskuéla *school*, and by the relative nominal bases: -(i)síreste, sírasi *scissors* (from Sp. texeras); -(u)búgiote, búgiu *God*, (from Fr. bon Dieu); -ebéneri, béna *door(s)*, -éneri, óma *road*. The alternation of initial /o/ ~ /e/ in the last example is neither regular nor free, though it is not unique (cf. orému *song*, erémuhani *singing*). The "regular" plural of hįáru *woman*, formed by the addition of the third person plural pronominal suffix -ių ~ -ią, is hįárųių *women*; and this is the form always given as "correct" in the course of linguistic enquiry. However, in ordinary conversation and narrative speech I always heard hįárių. The plural of the men's word for *woman*, uóri, has as plural a form which is phonetically [wërĭyę], and which, if phonemicized as uorĭią instead of as uorĭą, would be an exception to the rule laid down in **2.1** above. The forms -ių and -ią of the third person plural pronominal suffix are actually in free alternation, speakers varying in their choice in some instances, although usually swayed by vocalic harmony. The forms listed in my paper on the Inflexional System of Island Carib (IJAL 17.24) are those which are most usual with various verb-forms. The use of the third alternant of this morpheme, -nu, will be explained under **4.1** below.

2.3. The absolutive form of few if any nouns can end in /a/ or in /e/ if they have vowel initial, the absolutive endings in such cases usually being diphthongized to /ao/ and /ei/. Such alternation as -aróna, arónao *arm(s)*, *wing(s)*, -aróne, arónei *captain* (*of a canoe*) may therefore be regarded as regular. Other types of alternation between relative nominal bases and their absolutive forms, as in -iúma, iúmau *mouth(s)*, -ę, ęu *male genitalia*, *testes*, (and obsolete eggs), -iiúrite, iuri *tobacco*, -idúnari, dúna *water or river*, -idóburi, dóbu *rock or stone*, -iiáurite, iau *uncle* are highly irregular and therefore best described under the morphology of the noun. However, a distinction should be made between a form like -idúnari, which must be regarded as belonging to the same morpheme as dúna, and those like -(u)buĭduri *younger comrade or favorite* and -(ú)mari, úmari *spouse*, which are derived from the relative bases -(u)buídu *prettiness, intimacy or friendship* (see **1.2** above) and -(ú)ma *together with* (cf. -(u)máda *friend*), and contain a modifying morpheme -ri. Other irregular morpheme alternation is seen in such forms as -(i)náro, inárani *truth, rightness*, and the thematic verb-stem anárad- *come true* (the possessed noun functioning as a minor sentence in such single word utterances as bináro *thou'rt right*, hanáro *they're right*, or -(i)ráo, -(i)ráho (niráo *my child*, uaráo *our child*, niráhǫią *my children*, uaráhǫią *our children*), iráho *child, boy, girl, offspring, little one*, -rao- (aráoda *to beget*), and -rao, as in údorao *little fish, fish*, from údu (*big*) *fish*.[2a]

[2a] The nominal and nominalizing suffixes, -ni, -li, and -ri probably should be regarded as alternative morphs of the same morpheme. Only the first appears to be productive today, and is employed in deriving nouns from adjectives and from participial bases of thematic verbs, as in: ugúdani *contentment*, from gúda ~ gudą *glad, happy, content*, a loan from Fr. content; ubúnuruni (*good*) *luck*, from búnuru *lucky*, a loan from Fr. bonheur or bienheureux; áigini *food*, from áigi *eating*, the participial base of áiga *to eat*. The other two forms are found in such words and bases as: -(u)málali, umálali *voice*, from the denominal privative adjective mála *empty*, from -(i)la, ílao *contents;* -(u)bali *saying* (n, *what one says*), from the imperfective auxiliary verb-base -(u)ba, which, like the conjunctive and durative auxiliaries, has a vestigial function as an absolute verb meaning *say;* sogóinali *what is/has past*, from sogóina (*in*) *passing*, an adverbial derivative of sógo *passing, past*, comparable to the Spanish "gerundio" in

2.4. The phoneme-sequence /eu/ is always disyllabic, and occurs within morpheme-boundaries in such words as ubéu *cloud(s) sky*, úmeu, and ogóreu, which are the names of two different species of demon, while /ęu/, as has been seen, constitutes the absolutive alternant of -ę, ęu *male genitalia*. These sequences may also occur across morpheme-boundaries when /u/ is the first element of a rising diphthong, as in légeuagu *upon his shoulder*, from lége *his shoulder* with the locative suffix -uagu, or guréueiu, the name of a flintlike stone from which fire may be struck, from obsolete gure *stone* in composition with (current) uéiu *sun, light, day*. Elsewhere, morpheme-final /e/ or /ę/ is replaced by /a/ or /ą/ when a form having morpheme-initial /u/ or /ų/ is suffixed to it. Thus if -(u)ga (see **2.5** below) is added to hére *strong* (see **1.3** above), we get hérauga *rough (of sea or weather);* if the directive suffix -ų *to(ward)* is added to hábię *at their home*, we get hábiąu *to their home* (nasalization need be marked on only one element of a nasalized triphthong, (see **4** below); and if -ų (possibly but not certainly a different, nominalizing morpheme) be added to -gųie- (as occurring in ugúie *today, now*, and in agúięda *to grow dusk, to become evening*), the result is gúiau *evening, in the evening*.

The phonemic sequence /iu/, with and without nasalization, occurs in the same positions as does /eu/, and is much more frequent than the latter within morpheme boundaries. From such an example as -árigi *after* (spatial), *behind* + -ų *to* (directive) > -árigau *back to, backwards*, it would appear that /iu/ is limited to the same positions as is /eu/. Nor can any case of inter-morphemic /io/ or /uo/ be found, although this may well be accidental (/oi/ occurs between morphemes, as in sogó-ina *in passing, passing*, an adverbial form).

The loan-adjectives maríe *marrying, married* (Fr. marié), bulíe *forgetting, forgetful, forgotten* (Fr. oublié), busué *wanting, in need of* (Fr. besoin) form such non-thematic verbs as maríetu *she is married*, bulíetių *they are forgetful*, busuéti ~ buséti *he is in need of—he wants*. They also enter into such thematic verbs as amáreda *to get married*, abúleda (± -gua) *to forget*, abúsera *to want or to need* (nasalization is usually, though not always, lost before /r/, (see **4.3** below). From this it would appear that the reduction ie > e and ue > e takes place as the result of stress-shift. However, this does not explain the alternation busué, buséti, which occurs in the majority of utterances containing these forms. A similar phenomenon may be observed when -uni, a nominalizing suffix, or -(u)ga (see **2.5**) is added to the adjective ibídię *unknown*, resulting in ibídauni *stupidity*, ibídauga *stupid*. A comparison with hábiąu *to their home* from hábię *at their home* leads us to postulate that ie-u ✱ > iau, but ie-uCV > auCV (see also **4.3**).

2.5.. The nominal and adjectival suffix -(u)ga is actualized as -uga after stem-final /a/ or /e/ (the latter, as has been seen in the preceding section, being thereupon replaced by /a/), and as -ga after stem-final /i/, /u/, or /o/.

2.6. Another type of alternation occurs with several forms of the small but important word-class of locators, which consists of derived primary words, characterized by the flexional suffixes: -ha, -ra, -gVta, -gVra, -te, and, in the case of one sub-class, -g(u)ia.

-ando ~ -iendo; -(u)buíduri *protégé, favorite*, from -(u)buídu *friendship, prettiness*, from buídu *good*; -(ú)mari, úmari *spouse*, from the locative nominal base, -(ú)ma *accompaniment, together with;* gaiúnari *ancestral cult-house*, from the denominal attributive adjective, gaiúna *having forebears*, from -iúna, iúnao *stem, stock, forebear*, (whence the suffix -ina, as above). The suffixes -ri and -li also occur in some petrified forms such as: -(i)gáburi *behaviour, form, shape*, from obsolete sigábui *to make;* -(i)bágari *life (vital principle)*, from obsolete ibágai *to come/take out, to save;* garábali *wind or breeze*, a probable though far from obvious derivative of garába *turning over, overturning*, itself a denominal attributive adjective from the stem -raba-, actualized as rábau in rábau uéiu *afternoon* (uéiu *sun*), and as harába in harába ganáli *earthquake* (ganáli *jar, foundation, depths*).

The latter occurs only with the pronominal bases (nu-, bu-, li-, tu-, ua- hu-, ha-) and is actualized as -gúia after those bases ending in /u/, and as -gía after the remainder. The suffixes -gVta and -gVra, which occur with locational ia-, with pronominal li-, tu-, and ha-, as well as with all bases formed by the predicative morpheme N- followed by any one of the suffixial person-markers (see **4.1** below), appear as -gita, -gira after base-final /i/, as -guta, -gura after base-final /u/, and as -gota, -gora in all other cases. With the bases ia-, li-, tu- and ha-, and the suffix -ha, the following alternations take place in all but ceremonial speech or song, iáha > ia, líha > lea, túha > tùa, háha > ha; -ha is thus reduced to zero after ia- and ha-, while it combines with li- and tu- to form the rare phonetic sequences, [lɛ·] and [tɔ·], which have been phonemicized as lèa and tùa. These aberrant forms should be compared to iára, líra, túra, hára, in which -ra is suffixed to the same bases, or to ṇíha *here he is*, ṇúha *here she is*, aniáha *here they are*, in which the same suffix. -ha, is added to bases formed from N- plus a pronominal suffix. Moreover, iáha *here* is the only formal base to which the directive -ų *to* may be added, thus iáhaų *hither*. After the locator iẹi ~ nieį *there* (*non-demonstrative*) (see **4.1** below for loss of nasal), which itself appears to be derived from ia- plus the non-demonstrative morpheme -į (cf. ṇíraį *he's there* (*non-demonstrative*) ṇíra *he's there* (*demonstrative*) or *there he is*), the directive -ų *to* is replaced by -hẹ or -hį, (n)iéįhẹ ~ (n)iéįhį *thither* (*nondemonstrative*) apparently being in free alternation.

The reduced form lèa *m.-this*, or *he here* combines with the stative particle, gía (cf. Spanish estar) *is* to form legé, which functions as a sort of explanatory conjunction, *it is* (*because/on account of*).

2.7. Another type of alternation involves syllabic reduction with loss of consonant, vowel, or both; it often occurs when a suffix -CV is added to a stem whose last consonant is the same as that with which the suffix begins, unless stress, in the resulting form, falls on the intervening vowel. Thus, from the predicative adjectives constituting the complements of the verb-phrases dará-bai *open it*: darú-bai *close it!* daří numútu *I found her*, niurú-ba *sit down!* rarí uamá *let's go down, let's dismount!* uarí-ta *let her come up* (*or go up*)*!* are formed the thematic verbs, adára *to open* (homophonous with adára *to shove*, whose stem is da), adáura *to shut*, adáira *to find* (*cf.* adáriha *to woo*, from the same stem), ániura *to sit*,[3] aráira *to descend*, auáira *to mount* (*cf.* auáriha *to creep*, from the same stem). The following apparently analogous alternations differ from the above in three respects: apart from adíga, which has a free stem diga, all their thematic affixes are non-detachable; they are also attested from mid-seventeenth century Dominica Carib; they involve loss of what are today contrastive consonants, as well as of identical consonants. They are aríha *to see or look*, aríaha *to try to see—to peep or peer*, aríagua *to watch;* áluga *to seek, to go look for* (with implication that whereabouts are known), áluaha *to search for, to seek* (with implication that whereabouts are unknown), áluagua *to look out for oneself, to make oneself at home;* ácuga *to chop* (definite as to goal and occasion), ácuaha *to go chopping*, or *to chop* (frequentive), ácuagua *to chop up* (into sections); adíga *to catch or hook out* (as fish from the water or food from a pot), adíaha *to go fishing*, adíagua *to dish up* (*food*). The vowel /a/ of -ha is always retained (see **2.2** above)—in the four forms, aríaha, áluaha, ácuaha, adíaha, just as in the case of átaha, frequentive of áta *to drink*, which also forms átagua *to be/go "on the booze."* Similarly, when -gua (in its function as reflexive) is added to -uagu- *upon or about*, the resulting form is -uaugua, as in buáugua *about thyself*, from buágua *about thee*; and when the directive suffix -gię ~ -geę *out of, from, among, by way of* is added to -árigi

[3] The participial causative of the full form of this verb was recorded in a song: naniúrugodóni *my seating him/it.*

behind, after (*spatial*), the resultant form is -árigię *after* (*temporal*). However, such alternations do not always occur in situations where they might be expected; thus asúfurira *to suffer* (*for—e.g.—one's misdeeds*), from súfuri, an adjectival stem, from Fr. souffrir; -anágagię *at the back of*, from the noun anága *back* (*part of the body*); -(u)mégegu *things* (*belongings*), a relative nominal base, with -gu as collectivizer, from an unattested *-(u)mége; -(u)málali, umálali *voice*, from the privative denominal adjective, mála *empty* (see **1.2** above).[4]

A similar alternation occurs in bringing about the loss of /i/ in the discontinuous morphemes g-. . . .-di and m-. . . .-di (by which habilitative and inhabilitative adjectives are derived from thematic verbs) whenever the -di occurs unstressed before a following /t/, to which the /d/ is assimilated. Thus gáiguatti *masc.-it is eatable* and máiguattu *fem.-it is uneatable*, from gáiguadi *eatable* and máiguadi *uneatable* (from áigua *to be eaten*, áiga *to eat*) plus aorist -t-i *he is*, -t-u *she is*. The long consonant (pronounced as in Italian fatto) may perhaps be further reduced to /t/ by some speakers in some forms, but all my informants were agreed that mátatti *he doesn't drink*, from mátadi *unable or not disposed to drink* (from áta *to drink*) plus -t-i *he is*, is by no means homophonous with mátati *he is bloodless*, from the privative denominal adjective máta *bloodless*, from -(í)ta, hítao *blood* (see **1.3** above) with the same suffix. On the other hand, no reduction takes place when, as in máharadít-i/-u *he/she won't agree* (< máharadi *unable or not disposed to agree* < áhara *to agree* < áhą *yes*), stress falls on the vowel of -dí.

Were it true, such a formula as d/tV-t > tt, but d/tṼ-t > d/tṼt would certainly be more elegant than the above somewhat lengthy statement; but such does not appear to be the case. For example, when, by suffixing -ti *he is* or -tu *she is* to such a form as the adjective buídu *good*, a non-thematic aorist verb is obtained, the result is generally buídti *he/it is good*, buídtu *she/it is good*, /dt/ being heard as in *wed to*. Some speakers—or it may be a question of rapidity of speech—also say buíduti (with considerable unvoicing of the second /u/) and buítti (but never *buíti).

3. Too few examples of true compounds occur in my material to warrant the formulation of any general rules concerning this process. It may be said, however, that the final vowel of the first member or initial vowel of the second member is lost, except when the latter occurs as first element in a rising diphthong. Examples are: -arígaila, arígailao *ear-ring(s)*, from arígai *ear(s)*, *corner(s)* and -(í)la, flao *contents;* bénebu *threshold*, from béna *door* and ébu *support;* bíranebu *mast*, from -(i)bírani, bíra *sail* (a loan from Sp. vela?) and ébu *support;* eménigirao *hope* and eménigira *to hope*, from eméni *withdrawal* (attested only in the form m-eméni-t-u n-anígi *I do not flinch/hesitate—without-withdrawal-is-it my-heart*) and the thematic verb, ígira *to leave;* gáie *egg(s)*, from the loanword gáiu *fowl* (Sp. gallo) and -ę, ęu *male genitalia, testes*, and (obsolete) *egg(s)* (see **4.2** below for shift of nasalization); gáigoca *manioc-cutting* (*plant*), from gąhį *manioc* and agóca *plant or cutting;* iumáru *lip(s)*, from -iúma, iúmau *mouth(s)* and -áru, áru *edge, border*; mabádiga *wax*, from mába *bee(s)* (but formerly meaning *honey*) and -(í)diga, ídiga *dung*; uádabagái *conch-shell*, from uadábu *conch* and ágai *container*. Possible compounds (about the analysis of which informants were undecided) are -ebégidina, ebégidinao *merchandise*, certainly containing ebégi *payment, reward*, and perhaps diná *embarking, embarked*, as in ádina *to embark;* mąblécu *mosquito-larvae* ("*wrigglers*"), analyzed by some as a compound of mábu *journey, way* and lécu *cutting, slicing*, and by

[4] Also in an imperfective verb in -ba, with a stem having -b as thematic suffix; thus bagąbuba *thou'lt hear*. Nevertheless, in the recording of one text, I got agą bali, for agąba bali *thou hast heard masc.-it;* although here the alternation is one of external sandhi, and the stem agąb- *hear listen* has no detachable thematic affix.

others as a deviant form of mabulécu *not overflowing*, the privative participial of abulécagua *to overflow*. To the modern Central American Carib such words as -(u)rágai, urágai *stomach* and guréueìu (see **2.4** first paragraph) are not compounds, though he may suspect them of containing the words ágai *container* and uéiu *sun*. The other components, Dominica Carib -(ú)le *root-food* and gure *stone* do not belong to his language. Likewise, his ímedamuru *father-in-law*, ímenodi *mother-in-law*, and simaráli *grater-teeth* (stone-chips inserted in grater-board) are now morpheme-words unless he suspects the first of containing (as it probably does not) the noun dámu *captive, slave* (adámura *to capture*) and the last of having contained (as it certainly did) the word ári *tooth* (*teeth*). Yet the Dominica Carib forms of these words, imetámuru, inénoti, and sìmalári were at one time obvious compounds of the men's terms, ímu *son* with itámuru *grandfather* and ínuti *grandmother*, and of simáli *grater* with the women's word ári, the only member of these one-time compounds that is current today.

4.1. V/VV-iụ > V/VVnu. Thus when the third person plural pronominal suffix -iụ is is added to namúlẹ *my younger brother* or to níbugaią *my elder sibling*, the resulting forms are namúlenu *my younger siblings* (in the singular *my younger sister* is distinguished as namúlelua) and níbugaianu *my elder siblings;* and when the same suffix is added to a durative verb in -ią, the resultant form is -ianu: táfaruiánu *she is beating them*, from táfarụią *she is beating*, from táfaru *her beating;* óruarogoiánu *they are only three*, from óruarogǫią *is/are only three*, from oruarog- *only three* (cf. perfective óruarogą́ią *they got to be only three*), from órua *three*. The final vowel of these words in -nu is slightly nasalized, as are also occurrences of /u/, /o/, or /a/—and none of /i/ or /e/—following a nasal consonant in this position, in which it is therefore impossible to show contrast.

Theoretically, the foregoing might be extended so as to predict the development of /n/ when any nasalized vowel or vowel-sequence is added to another with which it does not form a diphthong or triphthong; but the only affixes containing a nasalized vowel are, beside the suffixed marker of third person plural -ią ~ -iụ ~ -nu: -ią, the durative aspectual suffix; -į, the locational non-demonstrative secondary suffix; -ụ, the post-vocalic form of the marker of third person singular feminine; and the directive suffixes -ụ *to* -gię *from, by*, which are mutually exclusive. The durative suffix only occurs after a consonant or after a normally oral vowel to which it may confer a borrowed nasalization (see **4.2** and **2.2**), while non-demonstrative -į occurs only after /a/ or /e/ (it occurs after /e/ only in the triphthong /ieį/ which is phonetically identical with /iaį/), and -ụ—whether as person-marker or as the homophonous directive morpheme —occurs only after /a/ (see **2.4** and **2.6** above) or /ą/;[4a] thus in no case except that

[4a] In seventeenth-century Dominica Carib, according to Breton, the suffixed marker of third person singular feminine gender did not occur in postvocalic position, but was preceded by -r in imperfective (Class 3) and durative (Class 5a) verbs, and by -n in indefinitive (Class 7) and conjunctive (Class 8b) forms; positions in which there is no copula in the modern dialect, and this marker occurs in its postvocalic form, -ų. Moreover, while the marker of third person singular masculine gender was also preceded, in the earlier dialect, by a copula, -l, in the first two of these positions, it was postvocalic—i.e. without any copula as in the modern dialect—in the last two. So, modern arámodagua lubái, arámodagua lubáų correspond to Breton's "arámêtacoua loúbali *il le cachera*, arámêtacoua loúbarou *il la cachera;*" and modern arámodagua lai, arámodagua laų to his "arámêtacoua-láe *qu'il le cache*, arámêtacoua lánum *qu'il la cache.*" It therefore appears that the nasalized alternant of this person marker, -u ~ -ų, is a development from earlier -nu (or -nų, word final /u/, /o/, or /a/ always being slightly nasalized after /n/ or /m/), in which -n served as copula.

The copulative forms, -n(i), -l(i), -r (which occurs only before the suffixed marker of 3rd pers. sg. fem. gender, -u), and -d(i) (which occurs only before the markers of 1st and 2nd persons sg. and pl.), in which parenthetic (i) is usually not—although it may be before -ua—actualized in pre-

described in the preceding paragraph is an /n/ developed in this way[5]—at least insofar as affixation is concerned.

On the other hand, /n/ before a rising diphthong may be lost when the latter bears loud stress. Of the alternate forms nióbui ~ ióbui *come* (cf. adjectival -iábi, see **1.2**), saniá(ti) ~ sią(ti) (*it is*) *impossible*, nieį ~ ieį *there* (non-demonstrative), only the older people appear to employ the forms with /n/. The reduced verb-form ániura *to sit* (see **2.7** above) is peculiar in having a free root ių, which is employed before the durative auxiliary, while niurú is employed before all other auxiliary verbs.[6] Thus ių nią-ti *I am/was sitting*, ių nią-iebe *while I was sitting (seated)*, but niurú-ba *sit down*. Now Breton, in describing seventeenth century Dominica Carib, wrote these two forms (employed analogously) as "níom" or "níon" (which was presumably disyllabic) and "niouroú" respectively, while I was told that some of the older Black Carib of Central America had said niu in place of modern ių (both forms being monosyllabic). This would suggest the morphological equivalence, within the same morpheme and syllable, of a nasalized rising diphthong and the oral form of the same diphthong preceded by /n/; and indeed we find other such alternations as nióraotu *she's very little* (-rao is here a diminutive suffix) and iǫ́giru *she's still little* (cf. early Dom. Cb. nią, recent Dom. Cb. hią *little*).[7]

4.2. Nasalization and stress may be inherent, though not necessarily coincident; when this is not the case, they appear to be correlated within the bounds of any continuous vowel-sequence belonging to the same word, irrespective of morpheme and syllabic boundaries. Thus ịu *high* is disyllabic, and retains this form in such words as ịura *to rise or to raise*, tịurahą́ią-iebe ganáli *as she was raising (the) jar*, ịuti *it is high*. In hją́ru *woman*, hją́rių *women* and -ję́je, ję́jei [ỊyéỊyey] *tongue*, nasalization and stress are again both inherent, but this time separate. On the other hand, when we compare such forms as ida lịa sa *how is it (that . . .)*? or má-buga nịa bų *didn't I tell thee?* with ida lią́-gi? *how is he?* or aríha niądibu *mind lest I see thee*; tịo *her hymen* with gaiǫ́giru *she's still a virgin*, maiǫ́haru *she's no longer a virgin* (non-thematic verbs derived from the attributive and privative adjectives based on the same noun ịo *hymen*); uị-bai *whistle it!* with tịuira *she whistle(s) (indefinite tense)*; uáiriti lịa *great-is-it his-anger* with gą́iaha uogóri lèa *this man has got angry*; it becomes clear that when stress and nasalization are non-inherent they may be shifted not only

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vocalic position should probably be regarded as grammatically determined alternants of one morpheme, which is reduced to zero in certain positions. On the other hand, the copula -t(i) must be regarded as a distinct morpheme, since it may stand in direct opposition to -l in such forms as: úati *there's none*, úali *there's no more*.

[5] A nasalized diphthong is phonetically the same whether it results from the juxtaposition within the same word of two nasalized vowels forming a nasalized diphthong, or from that of an oral and a nasalized vowel; so, lídą *in it*, lídaų *into it* (with the directive -ų); hagái *where is he*, hagáų *where is she* (with -ų, postvocalic form of the suffixed marker of third person feminine singular). Similarly with the formation of triphthongs, that of núbiaų *to my home*, from núbię *at my home*, with the directive -ų *to* (see **2.4**) in no way differing from that of iaų *once more*, the free form of the repetitive morpheme -ia. In such cases only one vowel is marked as nasalized, but the whole vowel-sequence must be regarded as thereby affected.

[6] The form ių is also employed in such a phrase as (ligía laríhini J.) ių lídą hálao alíha (*it-is-then his-seeing-him J.*) *seated in-it (a) chair to-read* (i.e. *reading*).

[7] The alternations of the predicative morpheme N- in combination with the suffixial person-markers to form the bases of the predicative pronominal locators may be mentioned here. These are: n ~ Vn (in idiolectic alternation, V harmonizing with first following vowel), except with the markers of first (-ua) and third (-ią) persons plural and second person singular (-bu). With the first of these three, the combined form is always ąuá-, with the second it varies between aniá- and ąiá-, the pronominal suffix losing its nasalization in either case, and with the third it is abú-, in which neither nasal nor nasalized vowel remains.

within but beyond the bounds of the morpheme. Thus also, when the third person plural suffix -iụ is added as pluralizer to nidúhe *my kinsman* (or *kinswoman*), the resulting form is nidúhẹiu *my kinsfolk*; and, as we have seen under **3** above, gáiu plus -ẹ are the members of the compound gą́ie *egg(s)*.

Word-final unstressed vowel is partly unvoiced, and it may be that the second syllable of such words as lį́a *he/it is/says*, lį́a *his anger*, gą́ia *angry*, tį́o *her hymen* retains a slight degree of nasalization; but the reverse is certainly not true, nasalization in the alternate morphs -ią́- and -ią́- being confined to the second elements of the rising diphthongs which constitute them. I have therefore marked two vowels as nasalized in such durative thematic verbs as táfarùią *she is beating*. Although this word bears only one primary stress, on the first syllable, the third is louder than either the second or the fourth, and therefore bears a much greater degree of nasalization than the latter. But when the word is so lengthened as to make room for a second primary stress, all nasalization leaves the third for the fourth (stressed) syllable; so táfaruią́dibu *she is beating thee* (in which homorganic nasal is usually heard before the /d/). This is also true of forms such as táfaruią́i *she is beating him*, táfaruią́u *she is beating her*, in which the second loud stress is "justified" by the additional mora, without any increase in the number of syllables.[8]

We may conclude that nasalization and stress are inherent in the case of some morphemes, such as ɟu *high* (or *up*) and hjáru *woman*, which contain a high vowel followed by a high or by a lower vowel; but that others, such as the durative aspectual morpheme, have three morphs ɟa ~ (Ṿ)-ia ~ ią́, the first occurring as word-final in post-consonantal position, the second as word final in post-vocalic position, and the third in all other circumstances, including that where it is followed by an enclitic. Others, such as ɟo ~ ią́ *hymen* and uɟ́ ~ (Ṿ)-ui *whistle*, have only two; but in every case where a shift of nasalization takes place, it is accompanied by a parallel shifting of stress. Exceptionally, the attributive denominal adjective gą́ia *angry* retains that form even when a suffix is added; and in all thematic forms derived from it loses its final /a/, except in very deliberate speech, in which case it may be heard as a whispered shwa, thus agą́i(a)da *to get angry*.

4.3. Nasalization cannot follow stress when the later moves off across consonant boundaries, but is lost unless the affected syllabic is /ią/ or /ię/. Thus sụ *all, every*, sų́hali *he has finished*, but ásura *to finish*; busuę́ *in need/want of*, buseti *he wants*, but abúsera *to want* (see **2.4** above). Another loanword gudá ~ gų́da *glad, content* (Fr. content) never occurs with both vowels nasalized; thus gudą́tina lau *I'm glad about him/it*, -(u)gų́dani, ugų́dani *contentment*. On

[8] A number of Spanish speakers who have attempted to write Central American Carib resorted to such notation as: táfaruña for táfarụią *she is beating*, ítara liña *so he says* or *so it happens* (ítara lį́a), employing /n/ for a nasalized vowel with or without homorganic nasal, as in sun for sụ *all, every*, táfaruiándibu for táfaruią́dibu *she is beating thee*. However, all informants with whom I have discussed the matter agree that there is no closure of the tongue with the palate in producing the vowel phonemes of such a form as (l) ɟa, although naturally it is raised, as in any vowel-sequence containing a phonetic [y]. They also agree that the sound and manner of articulating the Spanish phoneme /ñ/ is different from anything in Carib and regard this letter simply as a matter of graphic convenience, preferable only to complete graphic disregard of nasalization as resorted to by some who have been taught to read and write in English only. It is interesting to note that Breton, in describing mid-seventeenth century Island Carib, consistently wrote such forms as such forms as "líem" and "liémbouca" for modern CAC lį́a and lią́-buga, although he could have employed the French digraph "gn" for the sound of Spanish /ñ/; while Rat, in describing recent Dominica Carib at the end of the last century wrote the same forms as "lía" and "libáuka" although he would scarcely have ignored a sound that came reasonably near that represented by "ni" in *onion*.

the other hand, sią *impossible, unable* retains its nasalized diphthong in thematic ásiąra *to be unable*, básiąrubá-i adóga *thou'lt-be-unable-masc.-it to-do*. A curious alternation occurs as between the phrase gadí-bią *what's the matter with thee?* but literally *what-amiss art-thou?* in which the durative auxiliary is enclitic to gadí, and the word magádiętina *there's nothing the matter with me—I'm nought amiss*, which though formally an aorist verb, apparently incorporates the durative morpheme in the reduced form -ę.

But loss of nasalization may occur without change of stress. Thus word-final unstressed nasalized vowel usually becomes oral when the word takes a suffix, as in the case of ábą *one, a, and*, ábaia *another, and again*, ábahali *he/it has become one/a*, ábarogáli *he/it has got to be only one*; áhą *yes*, áhati *he's willing*, máhaią *they've become unwilling*, áhara *to agree*; sabų *soap*, uasábute *our soap*; lídą *in masc.it*, lídagię *out of it*, or *among them* (when referring to inanimate objects, which do not take plural referents). The diphthongs /ią/, /ię/, and geminate /eę/ retain their nasalization; thus hísię *attractive*, hísięgugíru *she is still likable/lovable*; seméę *good* (*as to taste, touch, or smell*), seméęti *it is savoury*; ámu *other*, -ámuią-*being other*, ámuiągo *another* (*future*) *time*. Nor are morpheme-final (but not word-final) vowels, as in áhą-i *if-he*, so affected. Loss of nasalization before -uni or -ni can be explained as absorption; but it is impossible for me to say at the present time whether or not it is always lost before -(u)ga, as it is in the case of ibídauga *stupid* (employed, as are all "phenomenal" forms, only in an "impersonal" verb: ibídaugati bau *it-is-stupid over-thee—thou'rt stupid*), from ibídię *unknown* (see end of **2.4** and **2.5**), since I know of no other similar base ending in nasalized vowel or diphthong to which -(u)ga may be suffixed.

5. The person-markers occur in three principal forms: as pronominal bases of locators all seven are found with the suffix -g(u)ia, those of 3rd person only with -ha, -ra, -gVta, -gVra, -te (see **2.6** above); as prefixes all occur with relative nominal bases and with thematic and auxiliary verbs; as suffixes they occur with verbs, some verb-particles, and with the predicative locators, while that of the third person plural occurs with some nouns as pluralizer. Such alternations as are found within each of these classes have been described above: that of the prefixed markers of first (ua- ~ u-) and third (ha- ~ h-) persons plural under **1.2**; that of the suffixed marker of third person plural (-ią ~ -ių ~ -nu) under **2.2** and **4.1**; and that of the suffixed marker of third person feminine singular (-u ~ -ų) also under **4.1**. The basic, prefixial, and suffixial forms of the person-markers are here listed in that order: 1st sg. nu-, n-, -na; 2nd sg. bu-, b-, -bu; 3rd sg, (*m*) li-, l-, -i; 3rd sg. (*f*) tu-, t-, -u ~ -ų; 1st pl. ua-, ua- ~ u-, -ua; 2nd pl. hu-, h-, -o; 3rd pl. ha-, ha- ~ h-, -ią ~ -ių ~ -nu.

What today appears as suppletion, in the second and third persons plural was probably not that historically, since in Dominica Carib the suffixial form of the former was -ho, and the prefixial form of the latter nha- ~ nh- (with basic nha-).

ZOQUE IV: AUXILIARIES AND NOUNS

WILLIAM L. WONDERLY
SUMMER INSTITUTE OF LINGUISTICS

6.0. Introduction to auxiliaries
6.1. Auxiliary stems
6.2. Suffixes included in auxiliaries
6.3. Syntactic position of auxiliaries
7.0. Introduction to nouns
7.1. Noun stem types
7.2. Prefixes included in noun stems
7.3. Suffixes included in noun stems
7.4. Compound noun stems
7.5. Morphemes included in nouns

6.0. Morphological sequences which characterize auxiliary stems are summarized in **4.2** and shown in detail in **6.2.** Analysis of auxiliary stems is given in **6.1.** Auxiliary stems (designated Au) constitute a minor stem class related to, but different from, verb stems (V); auxiliaries (designated Aux) constitute a minor word class related to, but different from verbs (Vb).

6.1. Auxiliary stems may consist of one morpheme (Au^1) or two morphemes (Au^2).

6.1.1. Auxiliary stems consisting of one morpheme (Au^1) are five in number. They are: nʌ continuative; ma future; ha?n (∼ ha- before enclitic 1st person singular pronoun ?ʌs ∼ -?s) negative incompletive; wa?y subordinative; ?uy negative subordinative and negative imperative.

Examples of sequences containing Au^1: nʌ čʌhku *he is doing it*; ma čʌhku *he is going to do it*; ha?n čʌki *he does not do it*; wa?y čʌhku *in order to do it*; ?uy čʌhku *in order not to do it*; ?uy cʌki *do not do it!*

6.1.2. Auxiliary stems consisting of two morphemes (Au^2) consist of certain one-morpheme verb stems (V^1) plus a suffix of class 560. In formula: $V^1 + 560 = Au^2$. The V^1 stems which thus occur are: maŋ- *to go*, min- *to come*, tih- *to arrive*, sun- *to want*, muhs- *to know* or *be able*. Note that these Au^2 stems, while morphemically identical with verb-forming sequences $V + 560 = Vb$ (**5.6.1**) based on these same V^1 stems, are nevertheless different from them in their distribution and are therefore treated as a separate type of sequence. The $V^1 + 560 = Au^2$ sequences (based on these five V^1 stems) are distributionally equivalent to the one-morpheme auxiliary stems (Au^1) and so are themselves treated as Au stems; but $V + 560$ sequences based on other V^1 stems are not distributionally equivalent to any single morpheme, and no $V + 560$ sequence is ever equivalent to a V^1 stem in its distribution.

The following examples show sequences containing Au^2 based on maŋ- *to go*: maŋba čʌhku *he is going to do it* (maŋ- = V^1; -pa = 562); maŋu čʌhku *he went to do it* (maŋ- = V^1; -u = 561); ha?n mawe čʌhku *he is not going to do it* (maŋ- = V^1; -e = 564 [ha?n is a separate auxiliary preceding the auxiliary mawe]).

The following examples show sequences containing Au^2 based on min- *to come*: minba čʌhku *he comes to do it* (min- = V^1; -pa = 562); minu kyenu *he came to look* (min- = V^1; -u = 561); ha?n mini kyenu *he does not come to look* (min- = V^1; -i = 564).

The following examples show sequences containing Au^2 based on tih- *to arrive*: tihu čʌhku *he arrived to do it* (tih- = V^1; -u = 561); tihpa kyenu *he arrives to see it* (tih- = V^1; -pa = 562).

The following examples show sequences containing Au^2 based on sun- *to want*: sunba myaŋu *he wants to go* (sun- = V^1; -pa = 562); sunu čʌhku *he wanted to do it* (sun- = V^1; -u = 561); ha?n suni minu *he does not want to come* (sun- = V^1; -i = 564).

The following examples show sequences containing Au^2 based on muhs- *to know* or *be able*: muspa čamu *he can speak* (muhs- = V^1; -pa = 562); muhsu čamu *he could speak*

(muhs- = V¹; -u = 561); ha?n musi čʌhku *he cannot do it* (muhs- = V¹; -i = 564).

6.1.3. One other auxiliary stem consisting of two morphemes (Au²) consists of the Au¹ stem nʌ plus suffix 561 or 562. In formula: Au¹ + 560 = Au². But this Au² stem occurs only when extended by the addition of suffix 721 immediately after it. Examples of sequences containing this Au² stem are: nʌpa? čʌhku *he is already doing it* (nʌ = Au¹; -pa = 562; -?a = 721); nʌwa? čʌhku *he is already doing it* (nʌ = Au¹; -u [consonantalized] = 561; -?a = 721).

6.2. Morphological sequences which form auxiliaries (Aux) may include suffixes 711, 712, 721, 731, 732, 741, 742, 751. (In this and subsequent sections, unless otherwise stated, affixes that have been cited as occurring with a previously described stem class mark the same general meanings).

6.2.1. In the examples shown in **6.1.1** and **6.1.2**, the auxiliary stem (Au) constitutes an auxiliary (Aux). This is the minimum sequence. In formula: Au = Aux.

6.2.2. The minimum sequence Au = Aux may be extended by the addition of one or more suffixes of class 700 to the auxiliary stem. In formula: Au ± 710 ± 720 ± 730 ± 740 ± 750 = Aux.

When a suffix of class 710 (subordinative) occurs, it immediately follows the auxiliary stem. As in verbs, forms with a suffix of class 710 are syntactically subordinate.

Suffix 711 -mʌy (locative subordinative) appears word final. In formula: Au + 711 = Aux. Examples: nʌmʌy ñʌmaŋu *where he is taking it* (Au + 711 # Vb); maŋbamʌy minu *where he is going to come* (Au² + 711 # Vb).

Suffix 712 -?k (temporal subordinative) may be word final or be followed by a suffix of class 720 or 740. In formula: Au + 712 ± 720 or 740 = Aux. In the following example, suffix 712 is word final: maŋba?k minu *when he is going to come* (Au² + 712 # Vb). In the following examples, a suffix of class 720 or 740 follows suffix 712: nʌ?ka ñemu *when it was already burning* (Au¹ + 712 + 721 # Vb); nʌ?ktih minu *just when he was coming* (Au¹ + 712 + 741 # Vb).

Suffix 721 -?a ~ -a?M- ~ -a?a (perfective) may immediately follow the auxiliary stem; or suffix 712 may appear between the stem and 721. Suffix 721 is word final (or followed by an enclitic pronoun) in the examples shown. In formula: Au ± 712 + 721 = Aux. In the following examples, suffix 721 immediately follows the auxiliary stem: nʌwa? čʌhku *he is already doing it* (Au² + 721 # Vb); nʌwa?mʌs ncʌhku *I am already doing it* (Au² + 721—Prn # Vb); nʌpa? čʌhku *he is already doing it* (Au² + 721 # Vb); ha?na mini *he no longer comes* (Au¹ + 721 # Vb); maŋba?ndʌh nu?ku *we are already going to arrive* (Au² + 721 − Prn # Vb). In the following example, suffix 712 appears between the stem and 721: nʌ?ka minu *when he was already coming* (Au¹ + 712 + 721 # Vb).

In the examples which now follow, a class 730 suffix immediately follows the stem and is word final (or followed by an enclitic pronoun). In formula: Au + 730 = Aux.

Suffix 731 -hsʌ?ŋ (potential). Examples: maŋbahsʌ?ŋ minu *he may be going to come* (Au² + 731 # Vb); maŋbahsʌ?ŋ čʌhku *he may be going to do it* (Au² + 731 # Vb).

Suffix 732 -šeh (similative subordinative). Examples: maŋbašeh čʌhku *like he is going to do it* (Au² + 732 # Vb); nʌše?s ncamu *as I am saying* (Au¹ + 732 − Prn # Vb).

In the examples below, a class 740 suffix immediately follows the stem and is word final. In formula: Au + 740 = Aux.

Suffix 741 -tih (limitational-indefinite). Examples: in minutih ŋgenh *I came just to see it* (Au² + 741 # Vb); nʌtih mbahčʌhku *I am just taking a walk* (Au¹ + 741 # Vb); nʌtih kyenge?tu *he is looking again* (Au¹ + 741 # Vb); nʌmʌyt?ih minu *just where he is coming* (Au¹ + 711 + 741 # Vb). Note that 741 and 551 combine to mark action repeated by the same subject (as in verbs), but 741 occurs in the auxiliary and 551 occurs in the verb of the sequence (see the last example

above, where the verb part of the sequence is 132 + V^1 + 551 + 561).

Suffix 742 -mah (durative). Examples: maŋbamah minu *he is still going to come* (Au^2 + 742 # Vb); nʌmah minu *he is still coming (just now)* (Au^1 + 742 # Vb); ha?-nmah mini *he does not come yet* (Au^1 + 742 # Vb).

One suffix of class 750 may appear with auxiliary stems. In the example shown, it immediately follows the stem and is word final. In formula: Au + 750 = Aux. Example of suffix 751 -ha (interrogative): ha?nha mini *does he not come?* (Au^1 + 751 # Vb).

6.3. When an auxiliary (Aux) appears, a verb, noun, or attributive always appears later in the same syntactic sequence. The minimum syntactic sequences which contain an auxiliary are thus Aux # Vb; Aux # Nn; Aux # Atr. Most of the preceding examples illustrate the formula Aux # Vb. An example of Aux # Nn is: ha?n pyʌn *he is not a man* (cf. **7.5.4**); an example of Aux # Atr is: ha?n ?yoye *it is not good* (cf. **8.5.4**). When an auxiliary precedes a verb in a sequence, a second auxiliary may occur between the first auxiliary and the verb: Aux # Aux # Vb. Examples are: ha?n suni čʌhku *he does not want to do it*; sunba minu čʌhku *he wants to come and do it.*

6.3.1. In either of the sequence types Aux # Vb and Aux # Aux # Vb, the verb (Vb) has the class 560 suffix 561 or 564. The class 560 suffix may immediately follow the verb stem (V), or one or more suffixes of classes 510–550 may appear between the verb stem and 560 (as in **5.6.2**). But the suffix of class 560 is always word final (i.e. it is not followed by suffixes of class 700; if class 700 suffixes appear, they appear in the auxiliary). The verb may also have prefixes of classes 110 and 130. Sequences with one auxiliary may therefore be shown by the formula: Aux # ± 130 ± 110 + V ± 500^x + 560 = Aux # Vb. Sequences with two auxiliaries are similar as regards the structure of the verb: Aux # ± 130 ± 110 + V ± 500^x + 560 = Aux # Aux # Vb.

When the auxiliary stem is ha?n and there is only one auxiliary in the sequence, the verb has suffix 564: ha?n kyene *he does not see it* (formula for verb: 132 + V^1 + 564 = Vb); ha?n tiyʌ čʌki *it does not matter* (formula for verb: 132 + V^1 + 564 = Vb [tiyʌ *thing* is a separate word; the V^1 stem is ʌchk- *to do*; the expression is literally *it does not thing do*; equivalent to Spanish 'no le hace']).

When the auxiliary stem is ?uy and there is only one auxiliary in the sequence, the verb may have either suffix 564 or 561. If the verb has suffix 564, it has no class 130 prefix, and the sequence is negative imperative: ?uy cʌki *do not do it!* (formula for verb: V^1 + 564 = Vb). If the verb has suffix 561, the sequence is negative subordinative: ?uy čʌhku *that he may not do it* (formula for verb: 132 + V^1 + 561 = Vb); ?umis ncʌhku *that you may not do it* or *you must not do it* (the auxiliary ?uy is followed by the enclitic pronoun mis; the formula for the verb is: 131 + V^1 + 561 = Vb).

When the auxiliary stem is Au^2 or any Au^1 stem other than ha?n or ?uy, and there is only one auxiliary in the sequence, the verb has suffix 561: nʌ kyenu *he is looking* (formula for verb: 132 + V^1 + 561 = Vb); maŋba?ʌh ŋgenu *I am going to look* (formula for verb: 131 + V^1 + 561 = Vb).

When there is a second auxiliary in the sequence, the verb has suffix 561: maŋba sunu kyenu *he is going to want to see it* (formula for verb kyenu: 132 + V^1 + 561); ha?n suni kyenu *he does not want to see it* (formula for verb: 132 + V^1 + 561); ha?n nʌ čʌhku *he is not doing it* (formula for verb čʌhku: 132 + V^1 + 561).

6.3.2. When there is a second auxiliary in the sequence, the second auxiliary consists of the Au^1 or Au^2 stem without affixes: Aux # Au # Vb = Aux # Aux # Vb.

When the stem in the first auxiliary is ha?n and that of the second auxiliary is Au^2, the Au^2 consists either of V^1 + 564 or of

V^1 + 561 (individual preference by speakers). Examples with Au^2 as second auxiliary after ha?n are shown; also examples with Au^1 as second auxiliary after ha?n: ha?n mawe kyenu *he is not going to see it* (in the second auxiliary mawe, maŋ- = V^1; -e = 564); ha?n maŋu kyenu *he is not going to see it* (alternate form of preceding example; in the second auxiliary maŋu, maŋ- = V^1; -u = 561); ha?n suni kyenu *he does not want to see it* (in the second auxiliary suni, sun- = V^1, -i = 564); ha?n nʌ čʌhku *he is not doing it* (the second auxiliary nʌ = Au^1); ha?s ma ncʌhku *I am not going to do it* (the second auxiliary ma = Au^1).

When the stem in the first auxiliary is Au^2 or any Au^1 stem other than ha?n[31] and that of the second auxiliary is Au^2, the Au^2 of the second consists of V^1 + 561: maŋba minu čʌhku *he is going to come and do it* (the first auxiliary = V^1 + 562 = Au^2 = Aux; the second auxiliary = V^1 + 561 = Au^2 = Aux); sunba maŋu kyenu *he wants to go and see it* (the first auxiliary = V^1 + 562 = Au^2 = Aux; the second auxiliary = V^1 + 561 = Au^2 = Aux); nʌ minu čʌhku *he is coming to do it* (the first auxiliary = Au^1 = Aux; the second auxiliary = V^1 + 561 = Au^2 = Aux).

6.0. Morphological sequences which characterize noun stems are summarized in **4.2** and shown in detail in **7.5.**[32] Analysis of noun stems is given in **7.1–7.4.**

7.1. Noun stems (designated N) may consist of one morpheme (N^1), two morphemes (N^2), or more (N^3, N^4, etc.).

7.1.1. Noun stems consisting of one morpheme (N^1) may be monosyllabic, dissyllabic, or polysyllabic.

Monosyllabic N^1 stems have the form CVC, CVCC, CCVC, or CCVCC.[33] They may end in a consonant ?, h, y, m, n, ŋ, l, r: nʌ? *water*, tuh *rain*, kuy *tree*, ham *lime*, pʌn *man*, kaŋ *jaguar*, mar· *sea*; plaŋ *plain*, dril *drill cloth*. They may also end in a cluster of ? plus a consonant t, k, c: pa?t *liver*, po?k *knot*, tu?c *tail*. They may also end in a cluster of h plus consonant p, t, k, c, s (when the cluster is word or syllable final, the h is lost by **3.7**). Examples show the N^1 stem, then its free form without the h, then a form with the h: cahp(-) = N^1: cap *sky*, cahpohmo *in the sky*; peht(-) = N^1: pet *centipede*, pehtis *of a centipede*; pohk(-) = N^1: pok *water-gourd*, pohkis *of a water-gourd*; pahc(-) = N^1: pac *skunk*, pahcis *of a skunk*; nahs(-) = N^1: nas *ground*, nahsohmo *in the ground*; dyohs(-) = N^1: dyos *God*, dyohsis *God's* (but contrast the N^1 loan stem krus *cross*, which has the form CCVC without an h; the absence of h is seen in krusukʌ?mʌ *under the cross*).

Certain (or all?) monosyllabic N^1 stems which end in C or hC have a bound dissyllabic stem alternant. This alternant may be described as consisting of the monosyllabic alternant plus ? plus a vowel identical with the stem vowel (the ? may be lost by **3.5** or **3.8** or undergo metathesis by **3.2.1** or **3.4**). It occurs in certain arbitrarily defined sequences, including those in which one of the suffixes 623–628 follows the N^1 (**7.5.2**) and in certain compounds of which the N^1 is prior member (**7.4.1**). Examples show the monosyllabic alternant, the dissyllabic alternant, and then a form demonstrating the latter: nʌ? ~ nʌ?ʌ- *water* = N^1: nʌ?ʌkʌ?mʌ *under the water* (-kʌ?mʌ = suffix 624); kuy ~ ku?yu- *tree* = N^1: ku?yupo?k *tree trunk* (po?k *knot* or *trunk*); kom ~ ko?mo- *post* = N^1: ko?moca?tʌk *post-hole* (ca?tʌk *hole*); cin ~ ci?ni- *pine* = N^1: ci?nitʌk *pine forest* (-tʌk = suffix 321); kaŋ ~ ka?ŋa- *jaguar* = N^1: ka?ŋakopak *jaguar-head* (kopak *head*); peht(-) ~ pehte- *centipede* = N^1: pehtewo? *centipede hole* (wo? *hole*); cuhk(-) ~ cuhku- *mouse* = N^1: cuhkuwo? *mouse hole* (wo? *hole*); mohk(-) ~ mohko- *corn* = N^1: mohko?ay *corn leaf* (?ay *leaf*); tʌhk(-) ~ tʌhkʌ- *house* = N^1: tʌhkʌkopak *upper part of house* (kopak *head*); nahs(-) ~

[31] And possibly ?uy; data are incom plete here.

[32] In addition to the sequences shown in **7.5**, many noun stems may precede a suffix of class 230 or 240 to form verb stems (see **5.4.2** and **5.4.3**).

[33] Monosyllabic N^1 stems beginning in CC are Spanish loans.

nahsa- *ground* = N^1: nahsakopak *world* (kopak *head*); krus ~ krusu- *cross* = N^1: krusukʌ?mʌ *under the cross* (-kʌ?mʌ = suffix 624).

A very few N^1 stems occur that are identical with V^1 stems: yu? *hunger* (yu?- *to be hungry* = V^1); siht(-) *mucus* (siht- *to run at the nose* = V^1); cem *urine* (cem- *to urinate* = V^1). Compare also the one example tin *excrement*, which is identical except for its vowel with the V^1 stem tʌn- *to defecate*.

In dissyllabic N^1 stems, the vowels in the two syllables may be either alike or different if the vowel of the second syllable is a, e, i, u, ʌ.[34] If the vowel of the second syllable is o, that of the first syllable is also o except in piyo *zonzapote*, the onomatopoetic stem wilo *mico de noche*, and numerous Spanish loan stems (maŋgo *mango*, čelyo *Cliserio*, kampo *airstrip*).

Dissyllabic N^1 stems may end in a vowel in the form CVCV, CVCCV, CVCCCV, CCVCV, CCVCCV, CCVCCCV, CCCVCV, or CCCVCCV:[35] kinʌ *nose*, maca *star*, hi?ya *chicozapote*, ka?nǰi *turkey*, platu *plate*, traste *utensil*, mwestra *sample*, prweba *proof*, klyente *client*.

Dissyllabic N^1 stems may also end in a consonant h, y, n, ŋ, l, r· (but not ?) in the form CVCVC, CVCCVC, CVCCCVC, CCVCVC, or CCVCCVC: kowah *drum*, sa?kseh *beam*, kapay *sibling-in-law of opposite sex*, tumin *money*, tustun *fifty cents*, kʌmʌŋ *shadow*, kohyoŋ *chinini* (*species of avocado*), peról *copper kettle*, señór· *sir*, platóŋ *dish*, plančóŋ *slab to collect juice in sugar mill*.

Dissyllabic N^1 stems may also end in a cluster of two consonants in the form CVCVCC, CVCCVCC, or CVCCCVCC. The final cluster may be ?ŋ: ?aka?ŋ *griddle* (*comal*), tʌcʌ?ŋ *iguana*. The final cluster may be yh: kamayh *oak*. The final cluster may be h plus consonant t, k, c, s (when the cluster is word or syllable final, the h is lost by **3.7**). Examples show the N^1 stem, then its free form without the h, then a form with the h: mo?oht(-) = N^1: mo?ot *father-in-law* or *son-in-law*, mo?ohtis *of the father-in-law*; nakpaht(-) = N^1: nakpat *nopal*, nakpahtis *of the nopal*; pakahk(-) = N^1: pakak *cold*, pakahkis *of the cold*; tokohk(-) = N^1: tokok *cornhusk*, tokohkis *of the cornhusk*; tʌ?mbihc(-) = N^1: tʌ?mbic *mole*, tʌ?mbihcis *of the mole*; taŋgʌhs(-) = N^1: tʌŋgʌs *pillow*, tʌŋgʌhsis *of the pillow*.

Polysyllabic N^1 stems (three syllables or more) include a number of onomatopoetic and loan words, besides certain others: ku?munu *zacua* (*species of bird*), ku?kulumuču *turtle dove*, ?éhkene *chachalaca* (*species of bird*), sanawenes *native white trousers*, pantalóŋ *tailored trousers*, giniya *guineo* (*banana*), sapani *plantain*, hahčuku *ant*, hunhʌyʌ *tepezcuintle* (*species of animal*).

7.1.2. Noun stems consisting of two morphemes (N^2) are of various types, shown below.

Stems in which 50 + N^1 = N^2: ?aŋnaka *mouth* (?aŋ- = 51; naka *skin* = N^1); kopahk(-) *head* (ko- = 52; pahk(-) *bone* = N^1).

Stems in which N^1 + N^1 = N^2: kuyham *ashes* (kuy *wood* = N^1; ham *lime* = N^1); ci?ni?ay *pine needle* (cin ~ ci?ni- *pine* = N^1; ?ay *leaf* = N^1); cuhkuwo? *mouse-hole* (cuhk(-) ~ cuhku- *mouse* = N^1; wo? *hole* = N^1).

Stems in which At^1 + N^1 = N^2: popoham *lime* (popo *white* = At^1; ham *lime* = N^1).

Stems in which V^1 + 300 = N^2: pokskuy *chair* (poks- *to sit* = V^1; -kuy = 311); wandayu *singer* (wan- *to sing* = V^1; -tayu = 322); yohsaŋ *work* (yohs- *to work* = V^1; -?aŋ = 313).

Stems in which N^1 + 300 = N^2: kuy^{y}ayu *carpenter* (kuy *wood* = N^1; -tayu = 322); ci?nitʌk *pine forest* (cin ~ ci?ni- *pine* = N^1; -tʌk = 321).

[34] However, the dissyllabic N^1 stems whose two vowels are identical are noticeably frequent. No count has been made, but they appear to be more frequent than they would be if the choice of vowels were purely a matter of chance. Cf. **5.1.1**; dissyllabic V^1 stems have two identical vowels.

[35] Dissyllabic N^1 stems beginning in CC or CCC are Spanish loans.

Stems in which N^1 reduplicated = N^2: pʌnbʌn *bug* (pʌn *insect* = N^1); pi?mnapu?-mna *hilly country* (pu?mna *hill* = N^1; but note change of vowel in first member).

Stems in which a reduplicated dependent morpheme equals N^2: mo?tmo?t *kapok tree*, taktak *sycamore tree*, tandan *butterfly*.

A very few N^2 stems occur which are identical with V^2 stems: ?aŋgih *stopper* (?aŋgih- *to stopper* = V^2); kʌtohc(-) *prop stick* (kʌtohc- *to prop* = V^2); kʌpʌhk(-) *wedge* (kʌpʌhk- *to wedge* = V^2); ma?ah *sale* (ma?ah- *to sell things* = V^2).

7.1.3. Noun stems consisting of three morphemes (N^3) are of various types, shown below.

Stems in which $N^1 + N^2 = N^3$: kukwene *half* (kuhk(-) *middle* = N^1; wene *part* = $V^1 + 213 = N^2$); ku?yukopahk(-) *tree-top* (kuy ~ ku?yu- *tree* = N^1; kopahk(-) *head* = $52 + N^1 = N^2$).

Stems in which $V^2 + 300 = N^3$: kipsokyuy *intelligence* (kipsoy- *to think much* = $V^1 + 212 = V^2$; -kuy = 311); ?anecaŋdʌk *tortilla-making block* (?anecaŋ- = V^2 [but dependent; ?ane *tortilla* = N^1; caŋ- *to slap* = V^1]; -tʌk = 321).

Stems in which $N^2 + 300 = N^3$: pokyʌ?-way *inhabitant of Copainalá* (pokyʌ?- = $V^1 + 312 = N^2$ [but dependent]; -way = 331).

7.1.4. Noun stems consisting of four morphemes (N^4) also occur. Examples are shown here in which $V^3 + 300 = N^4$: piyʌnʌmgʌ? *hot weather* (piyʌnʌm- *to be hot weather* = $V^1 + 251 + 261 = V^3$; -kʌ? = 312); camcamnakyuy *conversation* (camcamnay- *to converse* = V^1 reduplicated + 215 = V^3; -kuy = 311).

7.2. Prefixes appearing in noun stems are 51, 52, 53, 71; also 61, 62; also 131, 132, 133.

7.2.1. Prefixes of classes 50 and 70 precede certain noun stems to form other noun stems: 50 or 70 + N = N.

Prefix 51 ?aŋ- (*mouth*, etc.) may precede certain N^1 stems: $51 + N^1 = N^2$. Examples show prefix 51 (?aŋ-) followed by N^1; the particular N^1 is cited in parentheses after each example: ?aŋnaka *mouth* (naka *skin*); ?aŋsihs(-) *lips* (sihs(-) *flesh*); ?aŋbʌhk(-) *beard* (pʌhk(-) *body hair*); ?aŋway *beard* (way *hair*); ?aŋji?u *goatee* (či?u *goat*); ?aŋsʌŋ *season* (sʌŋ *fiesta*); ?aŋginʌ *corner* (kinʌ *nose*); ?aŋgʌ? *patio* (kʌ? *hand*); ?a?ŋuku *descendants* (?uku *trunk*). Prefix 51 also precedes the unique dependent stem -maŋ in the N^2 stem ?aŋmaŋ *branch*.

Prefix 52 ko- ~ ko?- (*head*, etc.) appears as ko- before certain N^1 stems, as ko?- before other N^1 stems. In formula: $52 + N^1 = N^2$. Examples: kopahk(-) *head* (pahk(-) *bone*); koyomo *servant woman* (yomo *woman*); kopʌn *animal* (the N^1 may be described as either of two homophones pʌn *man* or pʌn *insect*). Examples of N^2 stems consisting of 52 plus a dependent morpheme stem are: ko?čaman *brains*, ko?kʌyʌ *hat*, ko?tahk(-) shawl, kowi?na *chief* or *head man*.

Prefix 53 ne?ŋ (*foot*) may precede certain N^1 stems: $53 + N^1 = N^2$. Examples: ne?ŋbahk(-) *foot* (pahk(-) *bone*); ne?-ŋbʌhk(-) *hair on foot* (pʌhk(-) *body hair*); ne?ŋune *toes* (?une *child*); ne?ŋmen *pain in foot* (men *pain*).

Prefix 71 saŋ- (intensive) may precede certain N^1 stems: $71 + N^1 = N^2$. Example: saŋnʌ? *pure water* (nʌ? *water*).

7.2.2. Prefixes of class 60 may precede certain verb stems to form noun stems: 60 + V = N. One prefix of this class, namely 62, may also precede certain other stems.

Prefix 61 ni- precedes the V^1 stem yam- *to wear (clothing)*: $61 + V^1 = N^2$. The form is niyam *outer clothes*.

Prefix 62 hoh- may precede the V^1 stem yam- *to wear (clothing)*: $62 + V^1 = N^2$. The form is hohyam *underclothes*. Prefix 62 may also precede certain N^1 stems: $62 + N^1 = N^2$. Examples: hohtuŋ *street* (tuŋ *road*); hohcahp(-) *roof of mouth* (cahp(-) *sky*). Prefix 62 may also precede certain dependent stems: hohwakna *canyon*, hohpahk(-) *arroyo* or *embankment* (-pahk(-) *arroyo* occurs as dependent stem in a number of forms).

7.2.3. Prefixes of class 130 may precede a very few dependent stems to form noun stems. All known occurrences of this type of sequence are given in the examples below.[36] Prefixes of class 130, which elsewhere in the language are person markers, mark a specialized meaning in this type of sequence. Certain N^2 stems formed with class 130 prefixes, may not follow a class 130 prefix marking person. This is true of ŋgaʔe *boy* and kyaʔe *girl*, which do not occur as possessed forms.

Prefix 131 N- may precede the dependent morpheme -kaʔe *child* (which otherwise appears after prefix 132) to form the N^2 stem ŋgaʔe *boy* (*pre-adolescent*). Prefix 131 also precedes the unique morpheme -botʸi to form the N^2 stem mbotʸi *clown*. It also precedes a unique bound sequence N^1 + 562 to form the N^3 stem ncumba *rattlesnake* (cum *rattle* = N^1; -pa = 562).

Prefix 132 y- may precede the dependent morpheme -kaʔe *child* (which otherwise appears after prefix 131) to form the N^2 stem kyaʔe *girl* (*pre-adolescent*). Prefix 132 also precedes the sequence of coʔn- (= dependent stem appearing in the V^2 stems coʔngiʔm- *to jump up* and coʔnwiht- *to go by jumps*) plus -koya (= dependent stem homophonous with koya *tomato*; koya appears in other Zoque dialects as a free form meaning *rabbit*) to form the N^3 stem čoʔngoya *rabbit*.

Prefix 133 Ny- appears first in a sequence followed by cowa *cotton* and -mbeʔ (onomatopoetic dependent morpheme) to form the N^3 stem ñjowambeʔ *sheep*.

7.3. Suffixes appearing in noun stems are 311, 312, 313, 314, 315, 316; also 321, 322; also 331, 332.

7.3.1. Suffixes of class 310 follow certain verb stems to form noun stems: V + 310 = N.

Suffix 311 -kuy (action, instrument, etc.) may follow V^1 stems: V^1 + 311 = N^2. The following examples show suffix 311 (-kuy) after various V^1; the particular V^1 is given in parentheses: yoskuy *work* (*act of work*) (yohs- *to work*); kipkuy *war* or *fight* (kihp- *to fight*); coʔckuy *beginning* (coʔc- *to begin*); yahkuy *end* or *finish* (yah- *to end*); sihkuy *laughter* (sihk- *to laugh*); hakyuy *writing* (hay- *to write*); ʔuhkuy *drink* (ʔuhk- *to drink*); ʔʌŋguy *bed* (ʔʌŋ- *to sleep*); kaʔkuy *death* or *sickness* (kaʔ *to die*); ʔitkuy *dwelling* or *living* or *temper* (ʔiht- *to live* or *exist*); pokskuy *chair* (poks- *to sit*); petkuy *broom* (peht- *to sweep*); kumguy *town* (kum- *to hide oneself*); minguy *act of coming* (min- *to come*).

Suffix 311 may also follow V^2 stems: V^2 + 311 = N^3. Examples: koyoskuy *wage-earning* (koyohs- *to earn*); kipsokyuy *intelligence* (kipsoy- *to think much*); muhsokyuy *knowledge* (muhsoy- *to be wise*); pʌʔnahkuy *birth* (pʌʔnah- *to be born*); cekwatkuy *men's sash* (literally, *belly-tying instrument*; cekwaht- = V^2 [but dependent]; cehk(-) *belly* = N^1; waht- *to tie* = V^1); hamakʌtʌhkuy *daily bread* (literally, *day-passing instrument*; hamakʌtʌhk- = V^2 [but dependent]; hama *day* = N^1; kʌtʌhk- *to pass* = V^1); maŋgiʔmguy *ladder* (maŋgiʔm = V^2 [but dependent]; maŋ- *to go* = V^1; kiʔm- *to go up* = V^1); ʔaŋmakyuy *learning* (ʔaŋmay- *to learn*).

Suffix 311 may also follow V^3 stems: V^3 + 311 = N^4. Examples: yahyaʔmokyuy *favor* (yahyaʔmoy- *to show favor*); camcamnakyuy *conversation* (camcamnay- *to converse*);

[36] An alternative analysis would be to list the six nouns of **7.2.3** simply as N^1 stems of a special phonological type. This would be satisfactory for mbotʸi. But ŋgaʔe and kyaʔe are related by a common meaning as well as form; this leads us to set uɲ -kaʔe as the underlying form of both and assign it the meaning *child*. As for ñjowambeʔ, I have admittedly taken a hint from the Tapalapa dialect in which mbeʔ *sheep* occurs as a free form, and another hint from the translation parallel in certain other Indian languages whose word for *sheep* is literally *cotton deer*. The form čoʔngoya could hardly be considered a single morpheme, since it has an apparent partial resemblance in meaning as well as form to the dependent stem coʔn- and also to the dialect form koya *rabbit*. The same applies to ncumba, with its partial resemblance in form and meaning to the noun stem cum and in form to suffix 562.

kopa?okyuy *sifter* (kopa?oy- = V³ [but dependent]; kopa?- *to sift* = V²; -?oy- = 212).

In at least one example, suffix 311 follows a (dependent) V⁴ stem: V⁴ + 311 = N⁵. Example: to?ya?ŋʌ?okyuy *pity* (to?ya?ŋʌ?oy- = V⁴ [dependent]; to?ya?ŋʌy- *to pity* = V³; -?oy- = 212).

(In some sequences, suffix 311 marks the action named by the verb stem which it follows. These sequences apparently represent the productive pattern; one or two informants have given these forms as equivalent to the Spanish infinitive. In other sequences, suffix 311 marks a special instrument or material involved in the action.)

Suffix 312 -kʌ? ~ -kʌ (impersonal action, etc.) has alternant -kʌ? appearing in noun stems, -kʌ in pronoun stems (**10.1.2**).

Suffix 312 may follow certain V¹ stems: V¹ + 312 = N². Examples: pihkʌ? *heat* or *fever* (pih- *to be hot*); sʌ?ŋgʌ? *light* (sʌ?ŋ- *to shine*); suckʌ? *deceit* (suhc- *to lie*); siŋgʌ? *swelling* (siŋ- *to swell*); mi?kskʌ? *earthquake* (mi?ks- *to shake*).

Suffix 312 may also follow certain V² stems: V² + 312 = N³. Examples: ?aŋhʌkyʌ? *thunder* (?aŋhʌy- *to sound*); ci?muŋgʌ? *brilliance* (ci?muŋ- *to glitter* [V²?]).

Suffix 312 may also follow certain V³ stems: V³ + 312 = N⁴. Examples: pakakanʌmgʌ? *cold weather* (pakakanʌm- *to be cold weather*); piyʌnʌmgʌ? *hot weather* (piyʌnʌm- *to be hot weather*).

Suffix 313 -?aŋ (action or result) may follow certain V¹ stems: V¹ + 313 = N². Examples: yohsaŋ *work* (*the work performed*) (yohs- *to work*); ka?aŋ *death* (kaʔ- *to die*).

Suffix 313 may also follow certain V² stems: V² + 313 = N³. One example is: kosohsaŋ *cracklings* (kosohs- *to render fat*).

Suffix 314 -Xi ~ -Xe (result of action) has alternant -Xi appearing when the vowel of the preceding syllable is i, u, ʌ, and in certain words when the vowel of the preceding syllable is a; alternant -Xe when the vowel of the preceding syllable is e, o, and in certain words when the vowel of the preceding syllable is a.[37]

Suffix 314 may follow certain V¹ stems: V¹ + 314 = N². Examples: kiti *piece* (kiht- *to break*); nipi *planting* (nihp- *to plant*); huki *cigarette* (huhk- *to smoke*); cʌmi *load* (cʌm- *to bear*); ?ʌksi *shelled corn* (?ʌks- *to shell corn*); ?ʌwi *sleep* (?ʌŋ- *to sleep*); na?ci *fear* (na?c- *to fear*); ha?ci *debt* (ha?c- *to owe*); napaši *dream* (napahš- is set up as dependent V¹; it appears here and in napahšʌy- *to dream* [V²]); kene *color* or *appearance* (ken- *to see*); ?otowe *word* or *language* (?otoŋ- *to*

[37] That is, the vowel harmony described in **3.14.1** is operative in suffix 314 after a preceding i, u, ʌ, e, o; but is incompletely operative after a. An alternative statement would be to set up suffix 314 as -X¹/₀ ~ -Xi. We would then state that the alternant -X¹/₀ (with vowel harmony) occurs when the preceding vowel is i, u, ʌ, e, o, and in certain words when the preceding vowel is a; the alternant -Xi (with fixed vowel i) occurs in certain words when the preceding vowel is a. But either statement requires that stems with vowel a be marked as to which alternant of suffix 314 may follow them, and either statement obviously requires a set of two morpheme alternants. Our chief objection to the alternative statement is that it sets up two morpheme alternants which (by definition) are theoretically different but which in certain positions are actually identical phonemically; that is, -X¹/₀ is phonemically identical with -Xi whenever the former follows a syllable whose vowel is i, u, ʌ. This type of statement is therefore somewhat self-contradictory, besides being more complicated than simply setting up morpheme alternants with fixed vowel phonemes i and e. It would, however, have the advantage of pointing out more clearly the operation, albeit incomplete, of a type of vowel harmony in suffix 314 which is completely operative in certain other suffixes of the language.

The alternative statement is similar in principle to Sebeok's treatment of certain Finnish suffixes which conform to the rules of vowel harmony after certain stems and not after other stems (Thomas A. Sebeok, Progressive vowel assimilation in Finnish. Cahiers Ferdinand de Saussure 5. 38–40 [1945]); his treatment is open to the same objection, as it sets up morpheme alternants that are phonemically identical in certain positions.

speak); came *word* or *utterance* (cam- *to speak*).

Suffix 314 may also follow certain V^2 stems: $V^2 + 314 = N^2$. One example is: ʔaneha ʔse *totoposte* (ʔaneha ʔs- *to toast tortillas*).

Suffix 315 -Xa ~ -Xʌ (result of action) has alternant -Xa appearing when the vowel of the preceding syllable is e, o, and in certain words when the vowel of the preceding syllable is a; alternant -Xʌ when the vowel of the preceding syllable is i, u, ʌ, and in certain words when the vowel of the preceding syllable is a.[38] Suffix 315 may follow certain V^1 stems: $V^1 + 315 = N^2$. Examples: nema *flame* (nem- *to flame*); noʔa *candle* (noʔ- *to light* [*kindle*]); koyowa *price* (koyoh- *to pay*); caca *crack* (cahc- *to crack* or *split*); kiʔmʌ *ascent* (kiʔm- *to go up*); punʌ *pus* (pun- *to suppurate*); wanakʌ *descent* (wanahk- *to go down*). (Suffix 315 marks a meaning similar to that of 314.)[39]

Suffix 316 -Xihk(-) may follow the V^1 stem mʌhc- (dependent, but also occurring in the V^2 stem mʌhcʌy- *to play*) to form the N^2 stem mʌcihk(-) *toy*.

7.3.2. Suffixes of class 320 follow certain noun stems and certain verb stems to form noun stems: N or V + 320 = N.

Suffix 321 -tʌhk(-) (habitat or instrument) may follow certain N^1 (stems where N^1 has both monosyllabic and dissyllabic alternants, the dissyllabic alternant occurs): $N^1 + 321 = N^2$. Examples: ʔaksahtʌhk(-) *canefield* (ʔaksah *sugar cane*); kahwetʌhk(-) *coffee grove* (kahwe *coffee*); kakawatʌhk(-) *cacao grove* (kakawa *cacao*); ciʔnitʌhk(-) *pine forest* (cin ~ ciʔni- *pine*); kuʔ-yutʌhk(-) *grove* (kuy ~ kuʔyu- *tree*); ʔoʔ-tʌhk(-) *maguey field* (ʔoʔ *maguey*).

Suffix 321 may also follow certain V^1 stems: $V^1 + 321 = N^2$. Examples: hemdʌhk(-) *hoe* (hem- *to hoe*); paʔtʌhk(-) *strainer* (paʔ- *to strain*); sactʌhk(-) *beater* (sahc- *to beat*); yostʌhk(-) *tool* (yohs- *to work*); paktʌhk(-) *loft* (pahk- *to rest*).

Suffix 321 may also follow certain V^2 stems: $V^2 + 321 = N^2$. Example: ʔanecaŋ-dʌhk(-) *tortilla-making block* (ʔanecaŋ- = V^2 [but dependent; ʔane *tortilla* = N^1; caŋ- *to slap* = V^1]).

Suffix 321 also follows the unique dependent stem čaps- to give the N^2 stem čapstʌhk(-) *arrow*.

(Suffix 321, when after noun stems, marks habitat or place where something abounds. When after verb stems, it marks instrument.)

Suffix 322 -tayu (professional agent) may follow certain N^1 stems: $N^1 + 322 = N^2$. Examples: kuyᵗʸayu *carpenter* (kuy *tree* or *wood*); kowahtayu *drum player* (kowah *drum*).

Suffix 322 may also follow certain V^1 stems: $V^1 + 322 = N^2$. Examples: wandayu *singer* (wan- *to sing*); ʔectayu *dancer* (ʔehc- *to dance*); sustayu *flute player* (suhs- *to play the flute*); tuhtayu *one who shoots* (tuh- *to shoot*).

7.3.3. Suffixes of class 330 follow certain

[38] That is, the vowel harmony described in **3.14.2** is operative in suffix 315 after a preceding i, u, ʌ, e, o; but is incompletely operative after a. An alternative statement, similar to that given in the footnote on suffix 314 above, would be to set up suffix 315 as -X^{a}/$_{ʌ}$ ~ -Xa. We would then state that the alternant -X^{a}/$_{ʌ}$ (with vowel harmony) occurs when the preceding vowel is i, u, ʌ, e, o, and in certain words when the preceding vowel is a; the alternant -Xa (with fixed vowel a) occurs in certain words when the preceding vowel is a. This alternative is open to the same objection as the alternative statement for suffix 314 (see the preceding footnote), since the alternant -X^{a}/$_{ʌ}$ would be phonemically identical with the alternant -Xa when the former follows a syllable whose vowel is e, o.

[39] As far as the examples cited for 314 and 315 go, the two suffixes are in complementary distribution. Since they are also similar in meaning, they could be treated as alternants of a single morpheme unit if examination of a longer list of forms should prove them to be consistently in complementary distribution. They have somewhat arbitrarily been kept separate in this analysis.

(usually dependent) noun stems[40] to form other noun stems: N + 330 = N.

Suffix 331 -mʌ (place-name marker) may appear after certain N^2 stems: N^2 + 331 = N^3. Examples: hʌyʌnʌ?mʌ *Juárez* (hʌyʌnʌ? *Juárez* = N^2; it occurs with or without suffix 331); sokinʌ?mʌ *Soteapa* (sokinʌ?- = N^2 [dependent; soki *snail* = N^1; nʌ? *water* = N^1]); pokyʌ?mʌ *Copainalá* (pokyʌ?- = N^2 [dependent; poy- *to run* = V^1; -kʌ? = 312]).

Suffix 331 may appear after certain dependent N^3 stems: N^3 + 331 = N^4. Examples: ho?nitimʌ *Quechula* (ho?niti- = N^3 [dependent; hon *bird* = N^1; ?iti = V^1 + 314 = N^2]); takspaca?mʌ *Santa Gertrudes* (takspaca?- = N^3 [dependent; takspa *it mashes* = V^1 + 562 = Vb; ca? *stone* = N^1]).

Suffix 331 appears after certain other dependent noun stems whose internal structure is not satisfactorily analyzed; most of these are set up tentatively as single morphemes N^1. Examples are: kupimʌ *Ocotepec*, pikumʌ *Ocozocuautla*, kuyatemʌ *Magdalena*, kekahpamʌ *Pantepec*. Suffix 331 also appears in an underlying analysis of suffixes 622, 624, 626; see **7.5.2.**

Suffix 332 -way (*inhabitant of* or *pertaining to*) may replace suffix 331 in the place-name sequences in which the latter occurs. Examples of 332 after the N^2 stems shown for 331 are hʌyʌnʌ?way *inhabitant of Juárez*, sokinʌ?way *pertaining to Soteapa*, pokyʌ?way *inhabitant of Copainalá*—here N^2 + 332 = N^3.

Examples of 332 after the N^3 stems shown for 331 are ho?nitiway *inhabitant of Quechula*, takspaca?way *pertaining to Santa Gertrudes*—here N^3 + 332 = N^4. Examples of 332 after the other stems shown for 331 are kupiway *inhabitant of Ocotepec*, pikuway *inhabitant of Ocozocuautla*, kuyateway *inhabitant of Magdalena*, kekahpaway *inhabitant of Pantepec*.

7.4.1. Compound noun stems may consist of two noun stems: N + N = N. Either or both of the constituent stems appear as N^1 or N^2.

N^1 + N^1 = N^2 examples show N^1 followed by N^1; the particular N^1 stems are given in parentheses after each example: kuyham *ashes* (kuy *wood*, ham *lime*); naskakawa *peanut* (nahs(-) *ground*, kakawa *cacao*); kaŋdahpi *species of vulture* (kaŋ *jaguar*, tahpi *eagle*); ?apitpahsun *chayote* (?apiht(-) *thorn*, pahsun *squash*); kahši?amu *tarantula* (kahši *chicken*, ?amu *spider*); ka?nji?uhsu *species of red gnat* (ka?nji *turkey*, ?uhsu *gnat*); kinʌpahk(-) *nose bone* (kinʌ *nose*, pahk(-) *bone*); kukpahk(-) *chest bone* (kuhk(-) *middle*, pahk(-) *bone*); kʌ?-kuhk(-) *middle finger* (kʌ? *hand*, kuhk(-) *middle*); kʌ?kape *forearm* (kʌ? *hand*, kape *cane*); haya?une *male child* (hayah *man*, ?une *child*); tuwi?une *puppy* (tuwi *dog*, ?une *child*); nuti?une *small net bag* (nuti *net bag*, ?une *child*); libru?une *booklet* (libru *book*, ?une *child*). Stems that have both monosyllabic and dissyllabic alternants show the dissyllabic alternant when occurring as first member of certain compounds only: ku?-yupo?k *tree-trunk* (kuy ~ ku?yu- *tree*, po?k *knot* or *trunk*); ku?yukopahk(-) *tree-top* (kuy ~ ku?yu- *tree*, kopahk(-) *head*); nahsakopahk(-) *world* (nahs(-) ~ nahsa- *earth*, kopahk(-) *head*); ka?ŋakopahk(-) *jaguar-head* (kaŋ ~ ka?ŋa- *jaguar*, kopahk(-) *head*); ci?ni?ay *pine needle* (cin ~ ci?ni- *pine*, ?ay *leaf*); mohkoway *corn silk* (mohk(-) ~ mohko- *corn*, way *hair*).

N^1 + N^2 = N^3 examples are hʌyʌnipi *flower garden* (hʌyʌ *flower*, nipi *planting*); limetawene *piece of glass* (limeta *bottle*, wene *piece*); kukwene *half* (kuhk(-) *middle*, wene *piece*).

N^2 + N^1 = N^3 examples are mehkuča? *sharpening stone* (mehkuy *act of sharpening*, ca? *stone*); tʌ?ŋgupyanehk(-) *species of large tick* (tʌ?ŋguy *iron* or *bell*, panehk(-) *tick*);

[40] The dependent stems that precede class 330 suffixes are those of certain place-names (see sec. **2** of my Zoque Place-Names, cited in **0.2** of the present work). These stems are here set up as noun stems although dependent, since those which are satisfactorily analyzed have the internal structure of N^2 or N^3 stems.

cʌmguñuti *large net bag* (cʌmguy *act of carrying*, nuti *net bag*).

An example of $N^2 + N^2 = N^4$ is ʔecekowiʔna *dance master* (ʔece *dance*, kowiʔna *chief*).

7.4.2. A few examples occur of a compound noun stem consisting of a reduplicated N^1 or N^2 stem. Examples of reduplicated $N^1 = N^2$: pʌnbʌn *small insect* (pʌn *insect*); piʔmnapuʔmna *hilly country* (puʔmna *hill* [note vowel change in the first part of the reduplicated form]). Examples of reduplicated $N^2 = N^4$: nipinipi *planted crop* (nipi *planting*); kuʔtikuʔti *edible fruit* (kuʔti- = N^2 [but dependent, kuʔt *to eat* = V^1; -i = 314]).

7.4.3. Compound noun stems may also consist of an attributive stem plus a noun stem. $At^1 + N^1 = N^2$ examples are: popoham *lime* (popo *white*, ham *lime*); namatuh *drizzling rain* (nama *small*, tuh *rain*); hoʔmapahsun *pumpkin* (hoʔma *gray*, pahsun *squash*); camupʌn *old man* (camu *old*, pʌn *man*).

7.4.4. Certain compound noun stems consist of a reduplicated dependent morpheme that does not otherwise occur. We treat these stems as N^2. Examples are: tandan *butterfly*, tukutuku *weasel*, pakapaka *guaje* (*species of tree*), taktahk(-) *sycamore tree*, moʔtmoʔt *species of silk-cotton tree*, pecupecu *species of herbaceous plant*, punʌpunʌ *species of shrub*, pucpuhc(-) *egg yolk*. (Note that nearly all the stems of this group are names of plant and animal species.)

7.4.5. In certain compound N^2 stems, a noun stem (N^1) precedes a unique dependent morpheme. The particular N^1 stem is given in parentheses after each of the following examples: ʔanemuč *toasted tortilla* (ʔane *tortilla*); nʌʔpin *blood* (nʌʔ *water* or *liquid*); kʌʔčus *fingernail* (kʌʔ *hand*).

7.4.6. In certain compound N^2 and N^3 stems, a unique dependent morpheme precedes a noun stem (N^1 or N^2).

In the following, the second part of the compound is N^1; hence the compound is N^2. The particular N^1 is shown in parentheses after each example: kuʔčihon *quail* (hon *bird* [taboo form except in compounds]); meči?-apiht(-) *cornosuelo* (*species of thorn*) (ʔapiht(-) *thorn*); mohsʌhk(-) *botil* (*large variety of bean*) (sʌhk(-) *bean*); cekuy *canelo* (*species of tree*) (kuy *tree*); ʔakuy *cedar tree* (kuy *tree*); tapahk(-) *thigh* (pahk(-) *bone*); pamcaʔ *large rock* (caʔ *stone*); nancin *nanche* (*species of tree*) (cin *pine*; the analysis is purely formal—both the Spanish and Zoque forms are Nahuatl loans); mʌtuh *downpour* (tuh *rain*; for first member of the compound compare mʌha *big*); kašlaʔane *bread* (ʔane *tortilla*; the first member of the compound is apparently a loan from Spanish 'castellano' or one of its derivatives); kasnambʌn *ladino* or *well-to-do person* (pʌn *man*; the first member is apparently from the same source as that of the preceding word).

In the following, the second part of the compound is N^2; hence the compound is N^3: nancʌmi *necklace* (cʌmi *load*).

7.4.7. A few compound noun stems consist of a verb (Vb) followed by a noun: wʌhpanʌʔ (place name) = N^3 (wʌhpa *it stinks* = Vb [wʌh- *to stink* = V^1; -pa = 562]; nʌʔ *water* = N^1); pihpanʌʔ *hot water* = N^3 (pihpa *it is hot* = Vb [pih- *to be hot* = V^1; -pa = 562]; nʌʔ water = N^1). Compare also the place-name takspacaʔmʌ *Santa Gertrudes*, in which takspacaʔ- = dependent N^3 (takspa *he mashes* = Vb [taks- *to mash* = V^1; -pa = 562]; caʔ *stone* = N^1).

7.5. Morphological sequences which form nouns (Nn) may include suffixes 611, 612, 613, 614, 615, 616, 617, 618, 619, 621, 622, 623, 624, 625, 626, 627, 628; also 631, 641, 651, 661; also 732, 721, 741, 742, 751, 752; also prefixes 131, 132, 133.

7.5.1. A noun stem (N) may constitute a noun (Nn). This is the minimum sequence: N = Nn.

7.5.2. The minimum sequence N = Nn may be extended by the addition of one or more suffixes of class 600: N ± 610 or 620 ± 630 ± 640 ± 650 ± 660 = Nn.

Suffixes of class 610–620 are mutually exclusive.

Suffixes of class 610–620 immediately follow the noun stem; they may be word final or followed by a suffix of class 630 or 640 (also by certain other suffixes; see **7.5.3**). In formula: N + 610–620 ± 630 ± 640 = Nn.

Suffixes 621–627 are subject to sub-analysis. The first constituent is one of the following: -kʌs- (seen in 621 -kʌsi, 622 -kʌsmʌ, and the free form kʌsmʌ *above*); -kʌ?- (seen in 623 -kʌ?y, 624 -kʌ?mʌ, and the free form kʌ?mʌ *below*); -kuhk- (seen in 625 -kuhki, 626 -kukmʌ, 627 kuhkoyh, 628 -kuk, and as a free form kuk *middle* and in the free form kukmʌ *in the middle*). The second constituent is one of the following: suffix 619 -i (seen in 621, 625, and in 623 as an alternant -y); suffix 331 -mʌ (seen in 622, 624, 626); suffix 618 -?oyh (seen in 627). However, in the noun morphology and elsewhere, we treat suffixes 621–627 as unit suffixes without further regard to this underlying analysis.

When one of suffixes 623–628 follows a monosyllabic N^1 stem which has a dissyllabic alternant (**7.1.1**), the dissyllabic alternant occurs. For examples of this, see below under these suffixes.

Suffix 611 -?is ~ -?s ~ -s (genitive or subject of transitive verb) has the alternant -?s appearing after stems ending in a vowel or in an unstressed syllable with final h; the alternant -?is after noun stems ending in any consonant other than h, or in a stressed syllable with final h (some speakers use this alternant, but rarely, after stems ending in a vowel); the alternant -s after personal pronoun stems ending in h (see **10.2.2**).

In the following examples, suffix 611 is word final (N + 611 = Nn); the noun is shown in a syntactic sequence, and the noun stem is given after each example: te?yomo?s tʸʌk *the woman's house* (yomo *woman*); te?-nana?s čʌhku *the mother did it* (nanah *mother*); te?pʌ?nis čʌhku *the man did it* (pʌn *man*); te?pʌ?nis tʸʌk *the man's house* (pʌn *man*); hwa?ŋis čʌhku *John did it* (hwaŋ *John*); mohkiste?ñe? *it is the corn's* (mohk(—) *corn*); tu?is čʌhku *the rain did it* (tuh *rain*).

In the following examples, suffix 641 follows 611 (N + 611 + 641 = Nn): pʌ?-nista?m *of men* (pʌn *man*); tata?sta?m *of the fathers* (tatah *father*).

Suffix 612 -hi?ŋ (comitative) may appear in word final (N + 612 = Nn): pʌnhi?ŋ *with a man* (pʌn *man*); ?unehi?ŋ *with a child* (?une *child*); tuwihi?ŋ *with a dog* (tuwi *dog*), or suffix 641 may follow 612 (N + 612 + 641 = Nn): ?unehi?ŋda?m *with the children* (?une *child*).

Suffix 613 -piht(—) (instrumental) may appear in word final (N + 613 = Nn): nʌ?pit *with water* (nʌ? *water*); kupit *with a stick* (kuy *tree* or *stick*); na?cipit *for fear* na?ci *fear*); mahka? hamapit *after ten days* (hama *day* [mahka? *ten* is a separate word]). Or suffix 641 may follow 613 (N + 613 + 641 = Nn): ca?pitta?m *with stones* (ca? *stone*). (Suffix 613, in most sequences, marks instrumental, translated *with* or *by*. In certain sequences it marks a specialized meaning, as after a numeral in mahka? hamapit shown above.)

Suffix 614 -kotoya (benefactive) may appear in word final (N + 614 = Nn): pʌngotoya *for a man* (pʌn *man*); kumgukyotoya *for the town* (kumguy *town*); kamakotoya *for a cornfield* (kama *cornfield*); yuskotoya ~ dyoskotoya *thank you* (literally, *for God*; yus- is a morpheme alternant of dyohs(—) *God* that occurs here only; the expression is a shortened form of the less frequent dyoskotoya mis nčʌhku *for God you did it*). Or suffix 641 may follow 614 (N + 614 + 641 = Nn): pʌngotoyata?m *for the men* (pʌn *man*). (Suffix 614 marks benefactive; it is usually translated *for*. But in certain contexts it is used with practically a malefactive value: ?otoŋu te?pʌngotoya *he spoke against the man*.)

Suffix 615 -?aŋi (locative) may appear in word final (N + 615 = Nn): nʌ?aŋi *near the river* (nʌ? *water* or *river*); tu?ŋaŋi *near the road* (tuŋ *road*); ca?tʌhkaŋi *toward the*

hole (caʔtʌhk(—) *hole*). Or suffix 641 may follow 615 (N + 615 + 641 = Nn): tuʔ-ŋaŋitaʔm *near the roads* (tuŋ *road*).

Suffix 616 -ʔaŋʌ (locative) may appear in word final (N + 616 = Nn): ʔuneʔaŋʌ *to the child* (ʔune *child*); tʌhkaŋʌ *at* or *to the house* (tʌhk(—) *house*); tataʔŋʌ *to the father* (tatah *father*); nanaʔŋʌ *to the mother* (nanah *mother*). Or suffix 631 or 641 may follow 616: tʌhkaŋʌk *from the house* (N^1 + 616 + 631); ʔuneʔaŋʌtaʔm *to his children* (132 + N^1 + 616 + 641). (Suffix 616 is very similar in meaning to 615, but apparently not identical.)

Suffix 617 -ʔohmo (locative) may appear in word final (N + 617 = Nn): tuʔŋohmo *in the road* (tuŋ *road*); tʌhkohmo *inside the house* (tʌhk(—) *house*); kumguʔyohmo *in* or *into the town* (kumguy *town*); ʔoʔnaʔohmo *in the clouds* (ʔoʔna *cloud*); yoskuʔyohmo *at work* (yoskuy *work*); kaʔmoʔmo *in* or *into the cornfield* (kama *cornfield*); caʔmoʔmo *in* or *into the bush* (caʔma *bush*); haʔčoʔmo *in debt* (haʔci *debt*); kahšiʔohmo *among the chickens* (kahši *chicken*). Or suffix 631 or 641 (or both) may follow 617: kumguʔyohmok *out of the town* (N^2 + 617 + 631); kahšiʔ-ohmotaʔm *among the chickens* (N^1 + 617 + 641); kumguʔyohmoktaʔm *out of the towns* (N^2 + 617 + 631 + 641). (Suffix 617 marks location inside or direction into; it is usually translated *in* or *into*.)

Suffix 618 -ʔoyh (locative) appears in word final (N + 618 = Nn): nʌʔoyh *in a creek* (nʌʔ *water*); kumguʔyoyh *in the town* (kumguy *town*); tuʔaŋsʌʔŋoyh *in wet season* (tuʔaŋsʌŋ *wet season*); mayuʔoyh *in May* (mayu *May*); lugaʔroyh *in a place* (lugar *place*); ʔeyako nakoʔyh *at another time* (naka *time* [ʔeyako *another* is a separate word]); tustuʔnoyh *fifty cents' worth* (tustun *fifty cents*); siŋkoʔyh *five cents' worth* (siŋko *five cents*); pesuʔoyh *one peso's worth* (pesu *peso*). (Suffix 618, in most sequences, marks generalized location, translated *in*, *at*, etc. After nouns that indicate monetary value, it marks a specialized meaning.)

Suffix 619 -i (locative?) appears after certain stems set up as noun stems. One example is after a dependent N^3 in the noun wiʔnaŋdʌhki (win *self* or *face* = N^1; -ʔaŋdʌhk- = N^2 [but dependent]); this form occurs with a prefix of class 130 and in syntactic sequence with a noun or pronoun in the genitive, as in dyohsis wyiʔnaŋdʌhki *in God's sight*, ʔʌs nwiʔnaŋdʌhki *in my sight*.

Suffix 621 -kʌsi (locative *on*) may appear in word final (N + 621 = Nn): naskʌsi *on the ground* (nahs(—) *ground*); tuŋgʌsi *on the road* (tuŋ *road*); noʔcekʌsi *on the wall* (noʔce *wall*); kukyʌsi *on the tree* (kuy *tree*); mesakʌsi *on the table* (mesa *table*); kayukʌsi *on horseback* (kayu *horse*); mukikʌsi *by measure* (muki *measure*); cuʔkʌsi *at night* (cuʔ *night*); makšku? hamakʌsi *in four days* (hama *day* [makšku? *four* is a separate word]); wyaʔku tatahkʌsi *he asked of the father* (tatah *father* [wyaʔku *he asked* is a separate word]); tustungʌsi *for fifty cents* (tustun *fifty cents*); pesukʌsi *for a peso* (pesu *peso*). Or suffix 641 may follow 621 (N + 621 + 641 = Nn): pʌngʌsitaʔm *on the men* (pʌn *man*). (Suffix 621, in most sequences, marks superior location, near—contrasting with inferior location of 623 and 624 and with remote location of 622 and 624. In this sense it is usually translated *on*. In certain sequences, including some of the above examples, it marks a specialized meaning.)[41]

Suffix 622 -kʌsmʌ (locative *above*) may appear in word final (N + 622 = Nn): naskʌsmʌ *above the ground* (nahs(—) *ground*); kukyʌsmʌ *above the tree* (kuy *tree*); capkʌsmʌ *in heaven* (cahp(—) *sky*); mesakʌsmʌ *above the table* (mesa *table*). Or suffix 631 or 641 may follow 622: capkʌsmʌk *from heaven* (N^1 + 622 + 631); mesakʌsmʌtaʔm

[41] In most of its occurrences, informants translate suffix 621 in Spanish by 'en'; this is true also of expressions in which it does not mark spatial location. For example, the local Spanish translation of pesukʌsi *for a peso* is 'en un peso', that for makšku? hamakʌsi *in four days* is 'en cuatro días'. This makes the area of meaning of suffix 621 fall almost entirely within that of Spanish 'en', and suggests that some of the forms are loan translations.

above the tables (N^1 + 622 + 641). (Suffix 622 marks superior location, remote—contrasting with inferior location of 623 and 624 and with near location of 621 and 623. It is usually translated *above*.)

The suffix -kʌsmʌ also appears as a free form kʌsmʌ *above*.

Suffix 623 -kʌ?y (locative *under*) appears in word final (N + 623 = Nn): ku?yukʌ?y *at the base of the tree* (kuy ~ ku?yu- *tree*); ca?akʌ?y *under the side of the rock* (ca? ~ ca?a- *stone*); ŋga?ekʌ?y *alongside of the boy* (ŋga?e *boy*); cimakʌ?y *under the edge of the calabash* (cima *calabash*). (Suffix 623 marks inferior location, near—contrasting with superior location of 621 and 622 and with remote location of 622 and 624.)

Suffix 624 -kʌ?mʌ (locative *under*) appears in word final (N + 624 = Nn): ku?yukʌ?mʌ *under the tree* (kuy ~ ku?yu- *tree*); ca?akʌ?mʌ *under the stone* (ca? ~ ca?a- *stone*); nahsakʌ?mʌ *under the ground* (nahs(-) ~ nahsa- *ground*); ?ʌŋgukyʌ?mʌ *under the bed* (?ʌŋguy *bed*). (Suffix 624 marks inferior location—contrasting with superior location of 621 and 622. This location may also be considered as remote—contrasting with near location of 621 and 623—but the remoteness is less apparent than in suffix 622.)

The suffix -kʌ?mʌ also appears as a free form kʌ?mʌ *below*.

Suffix 625 -kuhki (locative *in the middle of*) appears in word final (N + 625 = Nn): tʌhkʌkuhki *in the middle of the house* (tʌhk(-) ~ tʌhkʌ- *house*); kumgukyuhki *in the middle of the town* (kumguy *town*).

Suffix 626 -kukmʌ (locative *in the middle of*) appears in word final (N + 626 = Nn): nʌ?ʌkukmʌ *in the middle of the river* (nʌ? ~ nʌ?ʌ- *water* or *river*); kumgukyukmʌ *in the middle of the town* (kumguy *town*). (Suffix 626 is very similar in meaning to suffix 625, but apparently not identical.)

Suffix 627 -kuhkoyh (locative *at the middle of*) appears in word final (N + 627 = Nn): ki?mʌkuhkoyh *at the middle of the ascent* (ki?mʌ *ascent*). (Suffix 627 marks generalized central location.)

Suffix 628 -kuk (locative *in the middle of*; compare free form kuhk(-) *middle*) appears in word final (N + 628 = Nn): nʌ?ʌkuk *in the middle of the river* (nʌ? ~ nʌ?ʌ- *water* or *river*); tʌhkʌkuk *in the middle of the house* (tʌhk(-) ~ tʌhkʌ- *house*); kumgukyuk *in the middle of the town* (kumguy *town*). (Suffix 628 is similar in meaning to the three preceding suffixes, but apparently not identical with them.)

Suffix 631 -k (motion from, etc.) may immediately follow certain noun stems. It may also follow a sequence of noun stem plus certain suffixes of class 610–620 (those observed are 616, 617, 622, 624, 626). In formula: N ± 610–620 + 631 = Nn. In the following examples, suffix 631 immediately follows the noun stem: tumʌ mediak *one beer-bottle full* (media *beer-bottle* [tumʌ *one* is a separate word]); pokyʌ?mʌk *from Copainalá* (pokyʌ?mʌ *Copainalá*). In the following examples, suffix 631 follows a sequence of N + 610–620; the form shown in parentheses after each example is the underlying noun (Nn) including the 610–620 suffix: tʌhkaŋʌk *from the house* (tʌhkaŋʌ *to the house* = N^1 + 616 = Nn); kumgu?yohmok *from town* (kumgu?yohmo *in* or *to town* = N^2 + 617 = Nn); capkʌsmʌk *from heaven* (capkʌsmʌ *in* or *to heaven* = N^1 + 622 = Nn); nʌ?ʌkʌ-?mʌk *from under the water* (nʌ?ʌkʌ?mʌ *under the water* = N^1 + 624 = Nn); kumgukyukmʌk *from the middle of town* (kumgukyukmʌ *in the middle of town* = N^2 + 626 = Nn). Compare also: tʌ?paŋgʌsmʌk *west* (literally, *above* [*the sun's*] *setting*: tʌ?paŋ- = N^2 [but dependent; tʌ?p- *to set* = V^1; -?aŋ = 313]; -kʌsmʌ = 622; -k = 631); čohtaŋgʌsmʌk *east* (literally, *above its* [*the sun's*] *rising*; coht- *to rise* = V^1; -?aŋ = 313; -kʌsmʌ = 622; -k = 631). (Suffix 631, in a large number of sequences—especially after a class 610–620 suffix—marks motion from or origin at the place indicated. In certain other sequences it marks a different meaning.)

Suffix 641 -ta?m (plural) may immediately follow the noun stem. Or one or more suffixes of classes 610–630 may appear between the noun stem and 641. In formula: N ± 610–620 ± 630 + 641 = Nn. In the following examples, suffix 641 immediately follows a noun stem (N + 641 = Nn except when otherwise noted): pʌnda?m *men* (pʌn *man*); yomota?m *women* (yomo *woman*); ?uneta?m ~ ?uñdʸa?m *children* (?une *child*); kyowi?nata?m *their chief* (kowi?na *chief*; the formula is 132 + N² + 641); ca? ?i kocʌkta?m *stones and mountains* (kocʌhk(—) *mountain* = N² [?i *and* is a particle; ca? *stone* is a noun with plural meaning in context with plural kocʌkta?m]). In the following examples, one or more suffixes of classes 610–630 appear between the noun stem and 641; the specific formula is given in parentheses after each example: pʌ?nista?m *of the men* (N¹ + 611 + 641); pʌnhi?ŋda?m *with men* (N¹ + 612 + 641); ca?pitta?m *with stones* (N¹ + 613 + 641); pʌngotoyata?m *for the men* (N¹ + 614 + 641); tu?ŋaŋita?m *near the roads* (N¹ + 615 + 641); kumgu?yohmota?m *in the towns* (N² + 617 + 641); kumgu?yohmokta?m *from the towns* (N² + 617 + 631 + 641); luga?rohtʸa?m *in the places* (N¹ + 618 +641); mesakʌsita?m *on the tables* (N¹ + 621 + 641). (Suffix 641 marks plural. In sequences with possessed nouns (i.e. 130 + N + suffix), it may mark either plural of the noun or plural of the possessor.)

Suffix 651 -?aŋge (repetitive) has been found in one noun sequence; it is immediately after the noun stem and is word final. In formula: N + 651 = Nn. The example is tu?aŋge *rain again* (*after a short dry spell*) (tuh *rain*).

Suffix 661 -y (vocative) may appear word final immediately after certain noun stems that end in a vowel or h. In formula: N + 661 = Nn. Examples are: tʌwʌy *friend!* (tʌwʌ *friend*); tatay *father!* (tatah *father*); nanay *mother!* (nanah *mother*); pocoy *brother!* or *sister!* (poco *younger sibling*); kosey *sister!* (kose *older sister*); ?okoy *grandfather!* (?oko *grandparent*); tioy *uncle!* (tio *uncle*); yomoy *woman!* (yomo *woman*; the more frequent form of address is without the suffix; yomo *woman!*). (Suffix 661 marks vocative, used in address or salutation. Note that nouns with personal prefix 131 are used vocatively without a suffix: tʌs ndatah *Our Father!*; so also are nouns that do not occur with suffix 661: ?aci *brother!*, kanaŋ *old man!*, pegru *Peter!*, hwaŋ *John!*.)

7.5.3. The sequences N + 651 = Nn and N + 661 = Nn constitute maximum morphological sequences. But the minimum sequence N = Nn (**7.5.1**) or its extended forms N ± 610–620 ± 630 ± 640 = Nn (**7.5.2**) may be further extended by the addition of certain suffixes of class 700. If the class 700 suffix is suffix 732, it precedes suffix 641 when the latter is present. Otherwise class 700 suffixes are added after the noun stem or after a sequence of noun stem plus class 600 suffixes. In formula: N ± 610–620 ± 630 ± 732 ± 640 ± 712 ± 720 ± 740 ± 750 = Nn.

The order in which suffixes of class 700 occur in nouns differs somewhat from the order in which the same suffixes occur in verbs.

Suffix 732 -šeh (similative) may follow the noun stem; or a suffix of class 610–620 or 630 may appear between the stem and 732. Suffix 732 may be word final; or a suffix of class 640 or 740 may follow suffix 732. In formula: N ± 610–620 ± 630 + 732 ± 640 ± 740 = Nn. In the following examples, suffix 732 is word final: tuwišeh *like a dog* (N¹ + 732); pʌnšeh *like a man* (N¹ + 732); tʌhkohmošeh *as if in the house* (N¹ + 617 + 732); mesakʌsišeh *as if on the table* (N¹ + 621 + 732); kumgu?yohmokšeh *as if from town* (N² + 617 + 631 + 732). In the following examples, a suffix follows 732: pʌnšehta?m *like men* (N¹ + 732 + 641); pʌnšehtih *just like a man* (N¹ + 732 + 741); pʌnšehta?mdih *just like men* (N¹ + 732 + 641 + 741); pʌnšehmah *still like a man* (N¹ + 732 + 742).

Suffix 712 -?k (temporal) may follow the

noun stem; in the example shown it is followed by suffix 742. In formula: N + 712 + 742 = Nn. The example is ʔune?kmah *when still a child.*

Suffix 721 -ʔa ~ -a?M- ~ -a?a (perfective) has alternants as described in **5.6.3**; it may follow a sequence of noun stem plus a suffix of class 600. Suffix 721 is word final in the examples shown: N + 600 + 721 = Nn. Examples: cuʔkʌsiʔa *already at night* (N^1 + 621 + 721 [cuʔkʌsi *at night* = N^1 + 621 = Nn]); kumguʔyohmaʔa *already in town* (N^2 + 617 + 721 [kumguʔyohmo *in town* = N^2 + 617 = Nn]).

A suffix of class 740 may immediately follow the noun stem; or certain suffixes of classes 610–730 may appear between the stem and 740. The class 740 suffix may be word final; or a suffix of class 750 may follow 740. The sequence is frequently followed by an enclitic demonstrative (Dm). In formula: N ± 600^x ± 710 ± 720 ± 730 + 740 ± 750 = Nn.

Suffix 741 -tih (limitational) may appear in word final (or followed by an enclitic): ʔoʔnatihteʔ *there are only clouds* (N^1 + 741—Dm); ʔunetihteʔ *he is just a child* (N^1 + 741—Dm); pʌʔnistih *just the man's* (N^1 + 611 + 741); mesakʌsitih *right on the table* (N^1 + 621 + 741); tuwišehtih *just like a dog* (N^1 + 732 + 741); tuwitaʔmdih *just dogs* (N^1 + 641 + 741). Or a suffix of class 750 may follow suffix 741: pʌndihateʔ *is he just a man?* (N^1 + 741 + 751—Dm).

Suffix 742 -mah (durative) may appear in word final (or followed by an enclitic): kamamahteʔ *it is still a cornfield* (N^1 + 742—Dm); ʔuneʔkmah *when still a child* (N^1 + 712 + 742); pʌnšehmah *still like a man* (N^1 + 732 + 742). Or a suffix of class 750 may follow suffix 742: kamamahateʔ *is it still a cornfield?* (N^1 + 742 + 751—Dm); pʌʔnismahateʔ *is it still the man's?* (N^1 + 611 + 742 + 751—Dm).

A suffix of class 750 may immediately follow the noun stem; or certain suffixes of classes 610–740 may appear between the stem and 750. The class 750 suffix is word final (or followed by one or more enclitics). In formula: N ± 600^x ± 700^x + 750 = Nn.

Examples with suffix 751 -ha (interrogative) are: yomohateʔ *is it a woman?* (N^1 + 751—Dm); pʌʔnishateʔ *is it a man's?* (N^1 + 611 + 751—Dm); pʌndihateʔ *is he just a man?* (N^1 + 741 + 751—Dm); pʌʔnismahateʔ *is it still the man's?* (N^1 + 611 + 742 + 751—Dm).

One example of suffix 752 -ʔun ~ -ʔn (quotative) with a noun stem is found in the sequence: rayuʔsun ñʌpoyu *lightning ran away with it, it is said* (N^1 + 611 + 752 # Vb).

7.5.4. The sequence N = Nn, either as a minimum sequence (**7.5.1**) or as extended suffixially to N ± 610–620 ± 630 ± 732 ± 640 ± 700^x = Nn (**7.5.2** and **7.5.3**), may be extended prefixially by the addition of a prefix of class 130. With prefixial and possible suffixial extensions, the formula is: 130 + N ± 610–620 ± 630 ± 732 ± 640 ± 700^x = Nn.

In noun predications, class 130 prefixes have the same distribution as in intransitive verbs. In possessed nouns, they have a different distribution.

Prefixes of class 130 mark personal possessor, or subject of a noun predication. Which of these is marked depends on the type of sequence.

Prefix 131 N- may precede a noun stem in a sequence without an auxiliary; a genitive pronoun may be present or absent. Examples: (ʔʌs) mbama *my clothing* (131 + N^1); (mis) ndʌk *your house* (131 + N^1); (mis) ndataʔs *your father's* (131 + N^1 + 611); ŋgama *my* or *your cornfield* (131 + N^1); ŋgamakotoya *for my cornfield* (131 + N^1 + 614); ŋgʌʔpit *with my hand* (131 + N^1 + 613); (tʌs) ŋgumguʔyohmo *in our town* (131 + N^2 + 617); ndʌwataʔm *my friends* (131 + N^1 + 641). (In this type of sequence, prefix 131 marks 1st or 2nd person possessor.)

Prefix 131 may also precede a noun stem in a sequence with a preceding auxiliary.

Example: ha?nʌh mbʌn *I am not a man* (Aux — Prn ✱ 131 + N¹). (In this type of sequence, prefix 131 marks 1st—but not 2nd—person subject of a noun predication.)

Prefix 132 y- may precede a noun stem in a sequence without an auxiliary; a genitive noun, pronoun, or demonstrative may be present or absent. Examples: pyama *his clothing* (132 + N¹); tʸʌk *his house* (132 + N¹); ñana?s *his mother's* (132 + N¹ + 611); myo?ohtaŋʌ *to his father-in-law* (132 + N¹ + 616); kyumgu?yohmok *from his town* (132 + N² + 617 + 631); ?yuneihi?ŋda?m *with his children* (132 + N¹ + 612 + 641); kyowi?nata?m *their chief* (132 + N² + 641). In this type of sequence, prefix 132 marks 3rd person possessor. Prefix 132 may also precede a noun stem in a sequence with a preceding auxiliary. Example: ha?n pyʌn *he is not a man* (Aux ✱ 132 + N¹). In this type of sequence, prefix 132 marks 3rd person subject of a noun predication.

Prefix 133 Ny- may precede a noun stem in a sequence with or without an auxiliary. Examples without auxiliary: mbyʌn(mih) *you are a man* (133 + N¹ — Prn); mbyʌnda?mmih *you* (pl.) *are men* (133 + N¹ + 641 — Prn); šokahamihte? *is it that you are a bachelor?* (133 + N¹ + 751 — Prn — Dm). Example with auxiliary: ha?nmih mbyʌn *you are not a man* (Aux — Prn ✱ 133 + N¹). (In both these types of sequence, prefix 132 marks 2nd person subject of a noun predication.)

REVIEWS

TRAVAUX DU CERCLE LINGUISTIQUE DE COPENHAGUE VOL. V. RECHERCHES STRUCTURALES 1949. Interventions dans le débat glossématique. Publiées à l'occasion du cinquantenaire de M. Louis Hjelmslev. Copenhagen, Nordisk Sprog- og Kulturforlag, 1949.

This latest volume of the transactions of the Copenhagen circle is of special interest to general linguistics because it contains the first organized body of reactions to, and applications of, Hjelmslev's and his group's approach to linguistics, which goes under the name of glossematics.

The most comprehensive presentation of the Hjelmslevian view to date is contained in his Omkring Sprogteoriens Grundlæggelse (Copenhagen, Ejnar Munksgaard, 1943; abbreviation OSG), a French translation of which is now in progress. In OSG, Louis Hjelmslev proposes a rigorous logico-mathematical theory of language, based upon what he calls the empirical principle, i.e., the need to give a non-contradictory, exhaustive, and simplest possible description, in that order of importance, of the subject matter—in this case, language. He builds a rather intricate structure of relationships and dependencies in terms of which language can be described, making most emphatically clear that the proper subject matter of glossematics are these relationships rather than the existents themselves. The immediate datum is the "text," i.e. corpus, of a language and the procedure to be followed is an analysis—subdivision—of the corpus into smaller and smaller sequences in terms of the above-mentioned relationships, until the minimum units are reached. The next procedure is one of synthesis, that is, a re-organization of the minimum units obtained into a system. The basic assumption under which these operations are performed is that the corpus presupposes the system, in the sense that a corpus without underlying system would be totally inaccessible to scientific investigation, and hence have no scientific existence.

To this point, his views sound similar to those held by many American and European linguists, but the fundamental difference lies in Hjelmslev's elaborate, and logically extremely well founded, system of definitions, conditional propositions, statements of types of relationships and dependencies which cannot be adequately rendered in this space. Where several critics and reporters—such as A. Martinet (Bulletin de la Société de Linguistique de Paris 42.19–42 [1946]), Fritz Hintze (Studia Linguistica 3.86–105 [1949])—have taken issue with Hjelmslev, is his contention of the complete irrelevance of the (phonetic, graphic, or other) substance for (structural) form, that is, the idea that linguistic structure is a set of pure relationships that can be "manifested" in speech, writing, morse code, deaf-and-dumb gestures, or any other "substance" without affecting linguistic values.

Reactions in TCLC V range from epigonic elaborations of Hjelmslev's views (cf. H. Spang-Hanssen, On the Simplicity of Descriptions, pp. 61–70) to simple acknowledgements of the importance of Hjelmslev's position preceding independent theoretical statements (cf. Roman Jakobson, On the Identification of Phonemic Entities, pp. 205–13), classified in the four sections of the book: A. Problèmes Généraux (pp. 11–99), B. Problèmes du Contenu (roughly = meaning; pp. 97–202), C. Problèmes de l'Expression (roughly = form; pp. 205–273), D. La Glossématique et L'Esthétique (pp. 277–303). They are followed by a bibliography of Hjelmslev's publications on glossematics (pp. 305–7). The question presumably foremost in the minds of most field-workers, and also asked—though temporarily held in abeyance—by some of the reviewers of OSG, is, of course, whether the glossematic approach

yields any new techniques for the solution of concrete linguistic problems. A partial answer is now contained in TCLC V; to this reviewer, at least, it seems positive as far as it goes, and of particular interest to Americanists.

I am thinking especially of two papers: Anders Bjerrum, Verbal Number in the Jutlandic Law (pp. 156–76), and Ella Jensen, The Vowel System in the Flensborg By-Laws (pp. 244–55). Their interest lies, for our purpose, not in the language they treat (Old Danish dialects), but in the fact that the authors seem to have developed a technique for dealing with inadequate (and inconsistent) graphic representations of linguistic patterns which, mutatis mutandis, might be applied to the analysis of early missionary documents on native American languages. It may therefore seem worth while to discuss the methodology of these two contributions in somewhat more detail, especially since—very conveniently—one deals with morphology and the other with phonemics.

Bjerrum seeks an answer to the problem as to whether certain seeming inconsistencies in the use of verbal plural suffixes are due to scribal errors, i.e., departures from the old Danish literary standard attributable to the Jutlandic dialectal speech of the copyists. He formulates the two questions to be answered in this connection, "one of a special nature, the other of a general nature: 1. Does the description of the numerical inflection of verbs in the Jutlandic Law necessitate the establishment of two sets of rules, one applicable to a standard of written language, the other to the Jutlandic dialect spoken by the scribes, or is it possible to describe the text by means of a single set of rules? 2. Under what circumstances is it possible to substantiate the thesis that the description of a text requires more than one set of rules, that is, under what circumstances is it possible to maintain that there are more than one linguistic structure behind a given text?" (p. 157). The parallelism to the problem presented in W. L. Wonderly's Phonemic Acculturation in Zoque (IJAL 12.92–5 [1946]), or to the formulations in K. L. Pike and C. C. Fries' Coexistent Phonemic Systems (Language 25.29–50 [1949]) is evident; let me add that Bjerrum's technique and proposed solution might help in the analysis of, for instance, the Jesuit writings in Tupí-Guaraní such as have been re-published and subject to textual criticism by the São Paulo group (cf. my reviews in IJAL 12.45–8 [1946] and 16.211–3 [1950], also G. L. Trager's in IJAL 13.274 [1947] and J. Howland Rowe's in IJAL 16.151–2 [1950]).

To answer his first question, Bjerrum delimits his sample to those instances where singular and plural verb forms are not homophonous, since the question obviously does not arise for the other cases. Then he tries to find the kind of relation that exists between "the numerical content of the subject" (p. 158) and the corresponding verb forms, by a systematic syntactic analysis of a large sample of sentences of various well-defined types. He comes to the conclusion that "the presence of the plural in the verb does imply the presence of 'plurality' in the subject" (p. 165), and that hence a definite relation exists between subject and verb, which is "sufficient demonstration that there is no confusion between the singular and the plural of the verbs in the texts under discussion" (p. 166). This, together with a number of additional considerations, makes it "possible to describe verbal number in the Jutlandic Law by means of a single set of rules" (p. 171).

The general answer to Bjerrum's second question is formulated as follows: "a given text can never contain features which make it *necessary* to explain the text on a basis of more than one linguistic structure unless universal rules can be established as to what a linguistic structure ought to look like. Such universal rules would, however, have to be made out inductively, that is, by means of an examination of all existing linguistic structures. Our knowledge of these struc-

tures must needs be fragmentary and accidental and it will therefore never become possible to formulate structural rules which strictly speaking, may be called universal" (p. 171). It is, however, "at any time possible to establish rules concerning such linguistic structures *as have already been analyzed*. And from such rules it might be possible to produce evidence which—in a given situation —might make it desirable to explain a given text by two systems of language, each of which contains only such features as are known from elsewhere. This kind of situation is present whenever a given text complies with the following two conditions: 1. In some respects the text differs from other texts originating from the same region and the same period. 2. The text in question can be explained by means of two linguistic structures of which one, at least, is found in other texts from the same region or period" (p. 172). With this more general assumption, Bjerrum analyzes other dialects of Old Danish, but comes to a reaffirmation of his previous statement that the Jutlandic Law represents a single linguistic pattern.

In Ella Jensen's paper, "more importance is attached to showing the conditions under which this task must be carried out in applying the structural point of view to a text of limited extent and with an imperfect system of designation than to giving an exhaustive description of the vowels in the [Flensborg] By-Laws," (p. 244). This is a methodological point of importance, since the overwhelming portion of the linguistic data from, for instance, aboriginal South America is of just such a nature; she appears to have found a technique which might usefully be applied to material that has so far been considered 'impossible'. The problems encountered in the text are the following: "1. Dynamic accent is not indicated. 2. In some 100 words [of a sample of 900] a long vowel is indicated by means of a double letter, but otherwise length in vowels is not indicated at all. 3. The apocope, which has now become established everywhere in Jutlandic, is indicated in the text in some cases, while in others it is not, the difference between monosyllabic and disyllabic words being e.g. slurred over. It seems evident that such a difference existed at the time when the ms. was written, even if the apocope had become established by then.——4. The diphthongization of ē and ō is reflected in the spelling in some cases, while in others it is not" (pp. 244–5). Although the author sees no way of solving problem one, she utilizes internal evidence as well as comparison with texts of other phases of Jutlandic, both earlier and later, to solve problems 2–4.

Miss Jensen's conclusions are as follows. *In regard to problem 2:* (a) "If a word never occurs without the double letter spelling of the vowel it has to be taken for granted that the vowel is long" (p. 245); (b) "When a vowel is written with a double vowel in some cases and with a single one in others we also have to conclude that the vowel must be long" (p. 246); (c) "With regard to the case in which the length of the vowel is not indicated it may be assumed that if the older stages of the language and modern Jutlandic dialect agree then the text represents the same quantity which they have" (p. 247), although this procedure is less safe than the previous two. *In regard to problem 3:* both originally monosyllabic long vowels, and originally disyllabic long monosyllables arisen by apocope, are in the text indicated identically (by double letter), if at all. Since, however, there is a prosodic difference between these two historically different long vowels in all modern Jutlandic dialects, the author concludes that in the dialect represented by the text there must have been a corresponding phonetic (but not yet phonemic) difference not represented by the script. *In regard to question 4:* Since ē and ō are in the text interchangeable with the corresponding diphthongs, the two sets differ as variants, not as phonemes.

Having thus established as closely as possible the values of the graphic symbols, Miss Jensen proceeds to give the phoneme pattern

of the language by means of the "commutation test," i.e., by giving minimum pairs for the contrasts between all possible pairs of vowels.

Papers of a more strictly theoretical interest are the above-named by Jakobson, also several papers on case systems—among them John Lotz, The Semantic Analysis of the Nominal Base in Hungarian (pp. 185–97), and especially a brilliant summary of recent phonemic discussion, Eli Fischer-Jørgensen, Remarques sur les principes de l'analyse phonémique (pp. 214–34), which is of special interest in view of much of the recent argument over articulatory vs. acoustic criteria, distinctive features, the postulational method, and the like.

In summary, TCLC V serves to point up the significance of the recent efforts of the Danish group of linguists which has already found a strong echo all over Europe. The group appears to be well-informed (including a rather thorough acquaintance with recent American literature), intellectually alert, and capable of producing stimulating, logically consistent, and methodologically interesting material.

PAUL L. GARVIN
UNIVERSITY OF OKLAHOMA

NATIONALISM AND LANGUAGE IN CHINA. By John de Francis. Princeton University Press, 1950. Pp. xi + 306.

This book is chiefly concerned with the reform of the Chinese script and with the political issues that are connected with it. It is highly polemic, both in the reproduction of arguments advanced for over a century by various groups of people, radical and conservative, for and against such reforms and in the presentation of the author's own arguments. He poses two questions: 1) Can the Chinese language be alphabetized? and 2) Should the Chinese language be alphabetized (139)? The author is of the opinion that any practical reform must now be associated with certain political outlook, and answers the second question by connecting it with party politics and policies which he calls "nationalism". I shall refrain from commenting on his political opinion, the first question, however, has something to do with linguistics.

In Parts I and II (3–84) de Francis gives us in considerable detail a historical account of the "language reform" movement in China. Except the movement for a vernacular literature, led by Hu Shih, which aims at the substitution of the classical style by the vernacular and which has achieved a considerable amount of success, the various attempts at script reform have not been successful, including Latinxua, a system of romanization introduced from Russia. This does not mean that the various systems proposed are not appropriate and good. As a matter of fact, they all compare favorably with many current orthographies, and are infinitely better than the English spelling system, but the conservative force of a traditional system of writing used with little change for over two thousand years is considerable. De Francis has found no evidence for the opinion that there was "a deliberate policy of using language as a means of political control (7)." He has found also no evidence to support his colleague Owen Lattimore's claim that "the literati sought to hold the Chinese people as well as the unwanted outsiders at arm's length by consciously preserving and enhancing what has aptly been called 'the Egyptian obscurity of writing' (8)." I am afraid that the author has equally no evidence to support his view that the failure of the reform was due to "a fear of the social and political consequences which might result from adopting a form of writing that might be readily accessible to the people as a whole (67)."

In Part III (87–108) de Francis gives us a rather lucid picture of the latinization movement in the Soviet Union, a model of journalistic reporting.

In Part IV (139–208) which bears the title "Linguistic Dogma and Linguistic Science," the author feels it necessary to justify his arguments for alphabetization on

linguistic grounds. He defines language as speech and limits speech to the speech of Old Wang, a "totally illiterate" farmer near Peking (140–143). Then he goes on to attack vigorously the so-called "monosyllabic myth" which seems to him to be the chief theoretical obstacle in preventing the alphabetization of Chinese. Study, he claims, reveals that the syllables of both Chinese and English can be classified into three groups, namely bound syllables, semi-bound syllables, and free syllables. He explains them as follows, " . . . the free syllable can have a life of its own. The semibound syllable leads a more restricted existence and must always appear in combination with one or more of a limited number of syllables. . . . The bound syllable has no freedom whatever; it never appears in more than one combination of syllables. A meaning can be attached to the free and semi-bound syllables, but the bound syllable means nothing in itself (149)."

With this as his basis, he analyzes the following English words (selected from many other examples) thus: fa-ther, broth-er's (164), ox-en, ex-port-ed (151). As syllable is primarily a phonological term, we may perhaps ask on what phonological basis he divides these words in this particular fashion and not in some other way such as ok-sen, ex-por-ted. These words are not ad hoc examples, for de Francis professes a scientific study of both English and Chinese. We may further ask whether the English syllable has often the same clear-cut syllabic boundaries which the Chinese syllable generally has. De Francis seems to be oblivious of the possibility that phonologically the English syllable and the Chinese syllable are perhaps not commensurate with each other.

Perhaps such syllables as ok, sen, por, ted, etc. do not mean anything, and therefore he prefers another way of analyzing them, using meaning as his criterion. If so, it would mean that his syllable is a morphological unit. But on what morphological basis may he divide father and brother's into syllables as he does? Wouldn't it be far more sensible to divide, at least, brother's as brother-'s, and give up as a bad venture his theory of classifying English syllables? It seems clear that he has utterly confused a phonological syllable and a morphological unit, and fails to recognize the fact that the English syllable is not commensurate with a morphological unit. This is particularly fatal, because he constantly compares his analysis of Chinese with his English parallels.

On the other hand his analysis of the Chinese sentence papa pa titite shihshih tiule *Father lost younger brother's epic poem* into pa-pa pa ti-ti-te shih-shih tiu-le is not far wrong (164). It can not be far wrong because the Chinese syllable has well defined boundaries and the Chinese writing separates these syllables for him. But he fails to recognize that this is due to a happy coincidence that a phonological syllable in Chinese is often a morphological unit and that his confusion of these two classes does not work as much against him here as in the case of English. This is significant, because here lies perhaps the reason, which de Francis has sought in vain, why Chinese is so often labeled as "monosyllabic." He may save himself a good deal of argument by simply looking up Bloomfield's statement in Language (207) that Chinese is a language "where each word is a one-syllable word or a compound word or phrase-word." It is true that this statement may need some modification, but de Francis is certainly not saying very much about the structure of the Chinese language by making such statements as "Chinese is a syllabic language as are all other languages in the world (156)," "Chinese is a polysyllabic language (164)," and "Chinese was a language like other languages (165)."

The word "monosyllabic" is at best a label, which may serve a useful purpose if one's linguistics is not as confused as de Francis'. In Chinese a majority of morphemes are doubtless monosyllabic. There are, of course, disyllabic and perhaps poly-

syllabic morphemes, such as loan words, etc., and also a very small number of non-syllabic morphemes such as -r in itiar *a little bit*, and -n in nin *you, honorific*. Native speakers may even disagree in the analysis of a word, either as a disyllabic morpheme or as a dimorphemic word. The structure of any language, as linguists generally recognize, is complex, no label can hope to cover all cases except to denote a general tendency. How useful such labels are is another question. But de Francis, in his eagerness to destroy the "monosyllabic myth" has created a "syllabic myth" which is neither sound in methodology nor relevant to his purpose.

The question whether Chinese can be alphabetized or not needs no such elaborate preparatory argument. Languages similar in structure have been alphabetized in the past. Annamite has adopted the Quocngu romanization with apparent success, and Shan of Burma has used an Indian alphabet for centuries. These concrete examples render de Francis' first question superfluous.

Part V, entitled "The Script as a Problem of Nationalism," deals mainly with politics, which is far more complicated and far more likely to breed confusion than linguistics.

FANG-KUEI LI
UNIVERSITY OF WASHINGTON

NOUVEL EXAMEN DES LANGUES DES ANTILLES AVEC NOTES SUR LES LANGUES ARAWAK-MAIPURE ET CARIBES ET VOCABULAIRES SHEBAYO ET GUAYANA (GUYANE). By C. H. de Goeje. JSAP XXXI, pp. 1–120; (1939).

As the most comprehensive—and, in recent times, unique—attempt made so far to compare the old languages of the Antilles with their Arawak and Carib kin on the mainland of South America, this study seems to deserve greater consideration than was accorded it in this country at the time of its publication. It consists of an Introduction (1–5); a Taino vocabulary with comparative data from other Arawakan languages (5–19); grammatical notes and lists of affixes, etc., showing the Cariban or Arawakan affinities of certain Island Carib forms (21–31); an Island Carib vocabulary, taking Breton's mid-seventeenth century Dominica Carib as base-line, with comparative data from various sources on recent Dominica and modern Honduran Carib as well as on other Arawakan and Cariban languages (31–117); two brief word-lists of Shebayo and Guayana respectively; and several bibliographies. From an examination of the material presented, de Goeje concludes that both Taino (the pre-Conquest language of the Greater Antilles) and Iñeri (the pre-Carib language of the Lesser Antilles) were closely related to Arawak of the Guiana mainland; that Iñeri subsisted under the name of "Island Carib," despite the Carib conquest of the Lesser Antilles and the consequent introduction of a considerable number of Carib words; and that "the other element of Island Carib is not just another language of the great Cariban family, but pure Kaliña (Galibi), some words of which are closer to other members of this family than to modern Kaliña. . . . In modern Island Carib and in Honduran Carib are found only traces of Kaliña grammar, which appear as irregularities in a grammatical whole which is basically Arawak-Maipure, that is to say of Iñeri origin."

De Goeje does not say what assumptions he makes with regard to the phonemic or phonetic values of the symbols employed in his sources, whose spelling, for the most part, he reproduces.

Referring to Taino, he himself tells us that "The material of this language is composed of about two hundred words and a few phrases which are scattered throughout Spanish and Italian works of the 15th and 16th centuries." In view of the notoriously erratic spelling of these chroniclers, and of the fact that the sounds of Spanish underwent considerable change during this period, it is not clear why de Goeje transcribes, for example: "teitoka" for "teitoca," "guaisa" for "guaiça" (also found as "guaica"),

"daša" for "dacha;" while leaving: "daca" (to which the same meaning is attached as to "dacha" transcribed "daša"), "techeta," and "guamechyna" (from which, however, he abstracts "ameši") unchanged.

With Island Carib, he has, we are told, "replaced eu of French authors by ö, ou by u, ch by š, ca, co, cou, cr by ka, ko, ku, kr;" presumably reproducing other French spellings as well as all forms recorded by non-French authors. Breton's transcription leant heavily on the contemporary orthography of his native French; but he employed it consistently, described the sounds of the language in detail, and even mentioned some, like [s] and [š], as being non-distinctive. But in other instances he recorded what appear to have been allophones, (writing, for example, the same form here with "k" or "c," there with "g;" now with "o", and again with "ou" or "on"); and did not as a rule seek for distinctions which did not exist in his own language. Later authors on whom de Goeje draws for his comparative data (including the present reviewer in records published prior to 1947) were likewise influenced by familiar distinctions and conventional orthographies, and did not always show as much consistency in their employment of the latter as did Breton. If, as a consequence, he was unable to make phonemic analyses of the dialects and languages under comparison, it is hardly surprising that he failed to find, in the ensuing game of linguistic blind-man's-buff, many correspondences which otherwise would have been obvious, and that he sought relationships where none existed.

So, on the last line of p. 28, he compares "(*s'éloignant*) *de*, *h.* uine, *5* gie, *6* -uai, guiñe, *K* wiño;" in which "*h.*" indicates a form from the men's speech, "*K*" a Kaliña form, and the numerals refer to two of his sources, Henderson and Laughton respectively, each of whom, the former in 1847 and the latter in 1902, translated one of the gospels into the language of the Black Carib of Central America. Now of Breton's "iouíne, *f* noária *de moy*," only the latter form subsists in the modern dialect, where it occurs as the base -uária ~ -uai (*away*) *from, beyond, than*; while Henderson's "gie," Laughton's "guiñe" is the directive suffix -gię ~ -geę *out of/from, by way of*, corresponding to Breton's "-cheem" and "-cheen," listed some seven lines higher up as "šeem." Under *âme, coeur, courage, sagesse*, we find, *inter alia*, "aniši" and "anigui" (p. 38); but some pages further on, "umanisiku," a hybrid phrase consisting of French Creole u *you* and the (Carib) denominal privative adjective m[(anísi)ku] *witless*, is proposed as a cognate of "imansaku *putain, garce*" (p. 43). Honduran Carib "ma-lowga," which means *lonely* or *loneliness*, and not *dehors* as de Goeje has it, is apparently taken to be the privative of "luku-ṅn *plein*," a dubious morpheme-division of Breton's "loúcouin" (87). Actually, málauga is derived from the denominal privative adjective mala *empty*, by the addition of the suffix -(u)ga, which denotes that the reference is to general environment rather than to particular objects; while mála is formed by prefixing privative m(a)- to -(i)la, ílao *contents*, which de Goeje has listed as the first entry under "L" (p. 85). The second member of Rat's faultily recorded phrase, "ma buísola" (for mabuʃsu la) *that it may not fill* is followed by a parenthetic "(?)" and proposed as a cognate of "belu *avoir accès*" (p. 71); although four pages later we find the entry "*plein* boin(kua), *2* bui, *6* buin; *remplir* aboinša," etc., without any reference to "buisola." Honduran Carib "bulie-ga *être dans l'erreur*" is proposed as a cognate of "abule-kua *perdre*" (p. 73); yet the former term is a loan from French oublié, and should have been written bulíegua *forgotten* or bulíegu *forgetful*, while the latter, as Breton makes clear, meant (and means) *to corrupt or harm* (*somebody*), and not *to lose*. On the other hand, in Honduran Carib ubáfu *force*, de Goeje sees a loan from French pouvoir; although a perusal of the loanwords cited by himself should have sufficed to show the improbability of such an etymology (p. 116). French pouvoir,

had it been borrowed by this dialect, would, in all likelihood, have given Carib *fúfue, since we invariably find, in loans from French, p > f (panier > faníe, saloperie > salúfuri), u/o > u, v > u/f, while the sound (or sounds) represented by French "oi" remained (or became) Carib /ue/ or /ua/; cf. verre > uéru, du vin > diuéį, poivre > fuéferu, mouchoir > músue, bon Dieu > bų́giu, besoin > busuę́, rasoir > rásue, croix > gurúa.

The above constitute only a small sample of the many errors which could not, for the most part, have been made in working from properly phonemicized data. However, in one or two places de Goeje misreads his sources. So, on p. 49, we are told à propos of the word "kanali" that "Breton, car.-fr. préface, pense que ce n'est pas un mot indien." But Breton, in the place cited, lists "canari" as one of a number of words which, though employed as a jargon in communication between the French and the Caribs, are not true Carib; and himself gives "canálli *grands vaisseaux de terre dans lesquels les Sauuages font leurs vins*," (Car.-Fr. p. 107), and "*grand canari ou vaisseau dans quoy on fait l'ouicou* monca, *f.* canáli," (Fr.-Car. p. 59). Similarly, on p. 91, de Goeje misquotes Breton when he gives "*ivre* šimule." Breton (Car.-Fr. p. 157) gives "chimouléeli *il est saoul*," "nichímoúleni *repletion*," but no cognate of these forms will be found under "*yure*" (Fr.-Car. p. 408); and it is obvious that šimúle, like modern Honduran Carib kimúle ~ kumúle, meant *replete, having had enough* (*to eat or to drink*), and not *drunk* (*inebriated*).

It is no doubt regrettable that the author of this *Nouvel Examen*, at the time of his writing it, should have so far mistaken the methods and aims of modern linguistic analysis as to speak of "L'analyse complète du Caribe que je présente ici, . . . " (p. 2); but as Breton wrote when anticipating criticism of his own work, "il n'y a rien si facile que d'adjoûter à l'inuention des autres," and South American linguistics are still in the pioneer stage. In undertaking the very considerable labour of assembling so much comparative data in one readily accessible paper, de Goeje has rendered a real service to those who are interested in Arawakan and in Cariban languages; while recent classifications show that it is by no means superfluous for him to point out, after Lucien Adam and others, that Island Carib (together with its modern offshoot, Honduran or Central American Carib) is essentially Arawakan, and no more Cariban than English since 1066 is Romance.

DOUGLAS TAYLOR
MAGUA, DOMINICA

KLASSIFIKATION DER SÜDAMERIKANISCHEN SPRACHEN. By Čestmír Loukotka. Zeitschrift für Ethnologie 74.1–69 (1942).

With the appearance of the sixth volume of the Handbook of South American Indians containing Mason's new classification of the aboriginal languages,[1] another classification should be brought to the attention of the Americanists—one which due to the direct consequences of World War II seems to have remained unnoticed. The reference made is to Loukotka's Klassifikation der südamerikanischen Sprachen, a substantially revised version of the author's two previous classifications.[2]

Loukotka's paper falls into four sections: (1) introduction, pp. 1–2; (2) classification,

[1] J. Alden Mason, The Languages of South American Indians, *in* Handbook of South American Indians, BAE-B 143, vol. 6, pp. 157–317 (Washington, 1950).

[2] Čestmír Loukotka, Clasificación de las lenguas sudamericanas *and* Roztřídění jihoamerických jazyků, *in* Colección "Lingüística sudamericana," nos. 1 and 3 (Praha, 1935 and 1941). Of the three editions the Handbook acknowledges only the first throughout its text (pp. 167, 169, and passim) and in its bibliography (p. 646).

The scope of the revision is evident from the fact that the number of language families (94) in the Spanish edition (1935) has been increased by twenty in the present German edition (to 114).

In a private communication Loukotka has informed me that a large portion of the edition of Zeitschrift für Ethnologie containing his Klassifikation burned following an Allied air raid on Berlin.

pp. 2–32; (3) bibliography, pp. 32–62; (4) index of language families, languages, and dialects, pp. 63–69.

A classification of the South American aboriginal languages involves, according to the author, the very difficult problem of mixed languages. For his Klassifikation, Loukotka has resolved it in the following manner.

Word lists of 45 'typical words' have been compiled for languages sufficiently documented in the existing literature. According to the proportion of non-native elements in the word lists, Loukotka distinguishes rather arbitrarily between three degrees of mixture:

(1) A mixed language (Mischsprache) is defined as one whose number of non-native elements in the word list exceeds one fifth of its total (i.e., $x > 9$, since the corpus is 45 words).

(2) A language with intrusions ('mit Einschlägen von . . . ') of a non-native source is one which exhibits 'a comparatively large number' of loan words among the 45 items of its word list (from the context, this would seem to imply: $x < 9$).

(3) A language with traces ('mit Spuren von . . . ') of a non-native source is one which exhibits a small number of loan words in its word list.

Section (2) of Loukotka's Klassifikation consists of a list of language families with their constituent languages and/or dialects in groups or divisions. The information given for each of the languages listed contains—wherever possible or warranted—the most frequent synonyms, geographical location (mostly with reference to the South American river system), degree of mixture, author and page reference to the bibliography (3), and the amount of available linguistic material (only if scanty or non-existent). Those languages that are now extinct are designated as such. A black-and-white map (on p. 3) shows the distribution of the language families listed.

The rich bibliography (3) which the author modestly calls a selected list contains over 1000 references and is undoubtedly one of the best bibliographies of the subject in print.[3]

In view of the importance of Loukotka's study and of the fact that it has reached few of the specialists for whom it was intended, the following concise classification of South American Indian languages based on Loukotka's material may prove to be helpful.

Alphabetical List of Languages and Dialects.[4]

1 Aba (Canoeiros); 2 *Abipon (Kal'aga, Quiloaza); 3 Abitana; 4 Ačagua; 5 Ačual; 6 Adzáneni (Adyána); 7 Aguaruna (Awahun); 8 *Airiko; 9 Akawai; 10 Akonan; 11 *Akonipa (Tabankale); 12 *Akroá; 13 Alikaluf (Halakwalip); 14 *Al'entiak (Huarpe); 15 *Amaguaxe (Encabellados); 16 Amahuaka (Impetineri); 17 *Amarizana; 18 Amhó (Ivitorokái); 19 Amniapá; 20 Amoiše (Amíša, Amuexa, Lorenzo); 21 Ampaneá; 22 Anambe; 23 Ándagweda; 24 *Andakí; 25 Andoa (Gay, Simigae, Šimikae); 26 Andoke (Čo'oxe); 27 Andokero (Miraña-Karapana-Tapuyo); 28 Angaité; 29 Ankaš, d.; 30 *Anserma; 31 Anunzé; 32 Ãoniken (Tsoneka); 33 Apalai; 34 Apapokúva, d.; 35 Apiaka; 36 Apinažé; 37 Apingi (Apiaka de Tocantins); 38 *Aponežikran; 39 Araikú (Uaraiku); 40 *Arakayú.

41 Araona; 42 Arapiko; 43 Arára (Ajujure); 44 Ararandeuára; 45 *Arari; 46 Arasa; 47 Araua; 48 Arauá; 49 Arawak (Aruak, Lukkuni); 50 Arawak, Eastern, d.; 51 Arawak, Western, d.; 52 Arawine; 53 Arazaire; 54 *Aré; 55 Arekuná; 56 Argentinean Kečua, d. (Cusco); 57 Arikapú; 58 Arikém; 59 Arinagoto; 60 Aruá; 61 *Aruan (Aroa); 62 *Arupai (Urupaya); 63 Arutaní; 64 Asurini; 65 Ašlusláy (Čunupí); 66 *Atakama (Kunza, Likantai); 67 Atanke (Kalkuama, Sanha); 68 Atorai; 69 Atsahuaka; 70 Auaké; 71 Auetö (Awití); 72 Auiširi (Abiquira, Tekiráka); 73 *Avani; 74 *Avurrá; 75

[3] Postwar research (including Mason's classification in the Handbook) as well as sources unavailable to Loukotka during the war have been taken into account in his latest revision (as of 1951) which is now reportedly ready for publication.

[4] Languages (dialects) now extinct are preceded by an asterisk; dialects are designated by d. immediately following the entry word; synonyms are given in alphabetical order in parentheses. In alphabetizing the list, these rules were followed: diacritics over vowels were disregarded; č follows c, ď follows d, ñ follows n, š follows s, ž follows z, and ' follows ž. Spellings are those of Loukotka.

Awariko; 76 Aweikoma (Bugre); 77 *Axagua; 78 Ayakučo, d.; 79 Aymara (Kol'a); 80 *Ayomán.

81 Bakairí (Bacaery); 82 Bakurönčiči; 83 Baníva; 84 Bará; 85 *Barbákoa; 86 Baré; 87 Baure; 88 *Betoi; 89 Bintukua (Busintana, Ixka, Mačaka); 90 Bogotá Tunebo, d.; 91 Bohurá; 92 Bolivian Aymara, d.; 93 Bolivian Kečua, d.; 94 *Bolona; 95 *Bonari; 96 *Bonda; 97 Bora (Airasú, Meamuyna, Miranha Oira Assú Tapuya, Miraña); 98 *Borinken; 99 Boróro (Coroados); 100 *Borun; 101 Botokudo (Bakuen, Džiporoka, Krekmun, Krenak, Naknamuk, Uti-Krag); 102 Bribri; 103 Brunka (Boruka); 104 Buhágana; 105 *Bukobu; 106 *Bungá.

107 Canelos Kečua, d.; 108 Carib (Kalinago); 109 *Coroado; 110 Curicuriari Makú, d.

111 Čake; 112 Čakobo; 113 Čáma (Čipeo, Setebo, Šipibo); 114 Čamakoko; 115 Čamakoko, d.; 116 Čamí; 117 Čamikuro; 118 *Čaná; 119 *Čané (Izoceño); 120 *Čangena; 121 *Čangó; 122 *Čanko; 123 *Čapakura (Huači); 124 *Čarrúa; 125 Časutino; 126 Čayavita (Tsaawí, Yamorai); 127 *Čayma (Guarapiče); 128 *Čečehet; 129 *Čibča (Mosca, Muiska); 130 Čikito; 131 Čikluna; 132 Čilote, d. (Čaukéz); 133 Čimana (Xumano); 134 Čimane (Chomane); 135 Čimila (Šimiža); 136 *Čimú (Činča, Yunga); 137 *Činato; 138 Činčaysuyu, d. (Tampiš); 139 Čipaya; 140 Čiránga (Siriána); 141 Čiriguáno (Kamba); 142 *Čirino; 143 Čiripá, d.; 144 Čiripó; 145 *Čitarero; 146 Čokó (Čolo, Emperá); 147 Čolon; 148 *Čono; 149 Čontakiro; 150 Čoropí; 151 Čoroti (Solote, Yófuaha); 152 Čumpiwil'ka, d.; 153 *Čumulu; 154 Čurápa; 155 *Čuruya (Bisanigua).

156 Dătuana; 157 Desána (Uina); 158 Dóu, d.; 159 Doxkapura; 160 *Duit; 161 Duludi; 162 *Dzubukua (Kairiri); 163 Džoré.

164 Ebidoso (Iširá); 165 *Ele; 166 Emerilon (Teko); 167 *Enimaga (Kočabot); 168 *Eno; 169 Envuelto; 170 Erulia; 171 Eskama; 172 Eskuke; 173 *Esmeralda; 174 *Estrella; 175 Etagl, d.; 176 Eten; 177 *Eyeri.

178 Făai; 179 Fulnio (Carnijo, Fórnio, Iaté).

180 *Gamella (Akobu); 181 *Garañun; 182 Garú (Guarú); 183 Gayón; 184 Gennaken (Pampa, Puelée); 185 Goahira (Uáira); 186 *Gogez; 187 Gorone; 188 Gorotiré (Kayapó do Rio Xingu); 189 *Guačí; 190 Guačí of Vacaria, d.; 191 Guahibo; 192 *Guake; 193 *Gualaka; 194 Gualakiza; 195 *Guama; 196 Guamaka (Nábela); 197 Guaná (Ečoladí, Layano); 198 *Guane; 199 Guanuko; 200 Guarani (Abañeém, Karani); 201 Guarañoka (Kuraso); 202 Guarayú (Itatin); 203 *Guariko; 204 *Guarizo; 205 Guató; 206 Guatuso; 207 Guayabero; 208 Guayakí; 209 *Guaykeri; 210 Guažažára; 211 *Guenoa; 212 *Guentuse; 213 *Guetar; 214 Guikurú, d.; 215 Guinau (Temomeyémě); 216 Guisnai; 217 *Gwaikuru (Mbayá); 218 Gwaratégaža.

219 Hahaháy, d. (Northern Patašo); 220 Hairúya, d.; 221 Hohodene (Huhúteni); 222 Hório, d.; 223 Huankayo, d.; 224 Huari (Corumbiaros); 225 Húbde, d.; 226 *Humahuaka (Omaguaka).

227 Ihuruána; 228 Ikaguate; 229 Ikito (Akenóini); 230 *Imbabura (Karanki); 231 Imihitä (Emexeite); 232 Inapari (Maško Piro); 233 Inga, d. (Almaguero, Aponteño); 234 Ingain (Tain); 235 Ingarikó; 236 Ipéka (Kumado-mínanei); 237 Ipurina (Kangiti); 238 Iranče; 239 Isiama (Idiama); 240 *Itañá; 241 Itene (Moré); 242 Itogapúk (Ntogapŭd); 243 Itonama; 244 Itoreauhip; 245 Ivinheima Opaie, d.

246 *Jabaána; 247 *Jurí.

248 Kabekar; 249 Kabiši; 250 Kaduveio; 251 Kadʷurukré, d.; 252 Kágaba (Kaɣgia, Köggaba); 253 Kahuapana (Čunčo); 254 Kahuarano; 255 Káimö, d. (Kaimito); 256 Kaingán; 257 Kaingán, Central, d.; 258 Kaingán, Eastern, d. (Guayana de Paranapanema, Ñakfáteitei); 259 Kaingán, Northern, d.; 260 Kaingán, Southern, d.; 261 Kainguá, d.; 262 *Kakana (Diagit, Kalčakí); 263 *Kaketío (Támud); 264 Kalapalú, d.; 265 Kaliána (Sapé); 266 Kalihóna (Carijona); 267 Kaliña (Galibi); 268 *Kaliponau; 269 Kamakan; 270 Kamanawa; 271 Kamarakoto; 272 Kamayurá; 273 Kamé, d.; 274 Kampa (Anti, Atzíri); 275 Kamsá (Koče, Sibondoy); 276 Kamurú; 277 Kanamaré; 278 Kanamari; 279 *Kanarin; 280 Kanawari; 281 Kandoši (Canduachi, Murato); 282 Kaničana; 283 *Kañari; 284 Kapanawa (Buskipani).

285 Kapešene; 286 Kapiekran; 287 Kapišana; 288 Kapité-mínanei (Koatí-tapuya); 289 *Kapošo; 290 Karadžá; 291 Karaho; 292 *Karapóto; 293 *Karare; 294 *Kariay; 295 Karibe; 296 Karibisi (Caribs of Pomeroon); 297 Karif (Moreno); 298 Karimé; 299 *Kariniako; 300 Karipuna (Jaunavô); 301 *Karraim, d.; 302 Karútana (Korekarú, Yauareté-tapuya); 303 Kaskihá (Guaná del Chaco); 304 Kašarari; 305 Kašibo; 306 Kašináua; 307 *Kašine; 308 *Kašingui; 309 Kašuena (Kasiana); 310 Katakao; 311 Katapolítani (Kadaupuritani); 312 Katauiši (Hewadie); 313 Katawian (Parukatu); 314 Katío; 315 Katukina; 316 Katukinarú; 317 *Kauišana; 318 Kauki, d. (Ak'aro); 319 Kautarie (Quie); 320 Kauyari; 321 Kaviña.

322 Kawahíb; 323 Kayabí (Parua); 324 Kayápa; 325 Kayapó (Ibirayára); 326 Kayapó, Southern, d.; 327 Kayuvava; 328 Kečua (Inga, Kičua, Qheshwa, Runa-simi); 329 *Kenkatažé (Canella); 330 Kepkeriwát; 331 *Kepo (Quepo); 332 *Kerrandí; 333 *Kil'asinga; 334 *Kimbaya; 335 *Kindío; 336 Kinikináo; 337 *Kinó; 338 *Kipea (Kiriri); 339 *Kirikiri; 340 *Kitemoka; 341 Kiteño, d.; 342 Kixo; 343 Kobeúa (Hahanana); 344 *Koëruna; 345 Kofán; 346 *Koiba; 347 Kokama; 348 Kokamil'a; 349 Kokonuko; 350 Kokozú; 351 *Kolan;

352 *Komečingon; 353 Komlék, d.; 354 Konambo; 355 Končuku, d.; 356 Konibo; 357 *Kopal'én.

358 Koreguaxe; 359 Korobisi (Kueresa, Río Zapote Rama); 360 *Koropó; 361 Kóto; 362 *Kovareka; 363 Kradaho (Gradaú); 364 Krão; 365 Kreapimkatažé; 366 Krenžé; 367 Krikatažé; 368 Krišaná; 369 Kuaiker; 370 Kueretú; 371 *Kueva (Darien); 372 Kuiapo-Pihibi; 373 Kuika; 374 Kuiva; 375 *Kukurá; 376 Kulino; 377 *Kul'i (Culle); 378 Kumana; 379 *Kumanagota; 380 *Kumanašo; 381 Kuna (Bayano, Mandingo, San Blas, Tule); 382 Kuniba; 383 Kunuaná; 384 *Kupayana; 385 Kurina (Kólö, Kulina); 386 Kuruaya; 387 *Kuruminaka; 388 Kurušikiána; 389 Kustenau; 390 Kušičineri; 391 *Kutašo (Cotoxo, Katathoy); 392 Kuzkeño, d.; 393 Kužuna.

394 *Lače; 395 Lamaño, d. (Lamista); 396 *Lapaču (Apolista); 397 Leko (Lapalapa); 398 Lengua (Gekoinhalaák); 399 *Lili; 400 *Lukaya; 401 *Lule (Tonokoté); 402 Lupaka, d.

403 Mabenaro; 404 Mačigänga; 405 Madiha; 406 Makaguaxe; 407 Makamekran (Pepuši); 408 *Makinuka; 409 Makirí; 410 Makiritaré (Dekuána); 411 Makká (Nimaka, Toósle, Towošli); 412 Mako; 413 Makoa; 414 *Makoni; 415 Makú; 416 Máku; 417 Makuna; 418 Makuráp; 419 Makuší; 420 Makuxa; 421 *Malali; 422 *Malbalá; 423 *Malibú; 424 *Manabí; 425 *Manáo (Oremanau); 426 Manare Tunebo, d.; 427 Manastara; 428 Manažo; 429 Mandauáka; 430 Mánekenkn (Hauš); 431 Maneteneri; 432 Manitsáua; 433 Mapanai (Iratapuya); 434 Mapidian (Maopityan); 435 Mapoyo (Nepoyo); 436 Mapuče (Araukano); 437 Mapuče, d.

438 Marahan Makú, d.; 439 Maraka; 440 Marakaná; 441 *Marawá; 442 Marawan (Maraon); 443 *Mariaté (Muriaté); 444 Maropa; 445 Maruba (Mašuruna, Mayoruna, Pelado); 446 Masaka; 447 *Masakará; 448 *Masinga; 449 *Maskoi (Mačikui); 450 Mastanáwa; 451 *Mašakali; 452 Maško (Sirineiri); 453 Mašubi (Krutria); 454 Matako; 455 Matanawí; 456 Matapi; 457 Mataua; 458 Maué; 459 Máulieni (Káua-tapuya); 460 *Mawakwa; 461 *Mayna; 462 Mayoñkoñ (Yekuaná); 463 Maypure (Amorúa); 464 Mbühá, d. (Bwiha, Cahygua, Kaiuá); 465 Mehín (Merrime); 466 Mehináku; 467 Mekubengokrã (Kayapó do Rio Pau d'Arco); 468 *Menien; 469 Menimehe; 470 Migurí; 471 Mikay; 472 *Mikirá (Šuensampi).

473 *Mil'kayak; 474 *Minuan; 475 Mirripú; 476 Mobimi; 477 *Močika; 478 Moguex (Guambia, Silviano); 479 *Mokoa; 480 Mokočí; 481 *Mokoví (Moskovítika); 482 *Moluče, d. (Taluhet); 483 *Mongoyo (Monšoko); 484 Monošo; 485 Moríke (Mayoruna); 486 Moriwene (Sukuriyú-tapuya); 487 Moro (Morotoka); 488 Mosetene (Magdaleno); 489 Motilon; 490 *Move (Valiente); 491 Möxdöá (Karapana-tapuyo); 492 Moxo; 493 *Mučoxeone; 494 Muinane; 495 Muinane, d.; 496 Mundurukú (Pari); 497 Muníči (Balsapuertiño); 498 *Muoi; 499 Múra; 500 *Mure; 501 Murire (Bogota, Bonkota, Bukueta); 502 *Muso; 503 Musuraki; 504 Mutuan.

505 Nadöbö, d.; 506 Nahukwá; 507 *Napeka; 508 Napeño, d.; 509 Nehanáwa; 510 *Neiva; 511 *Ninakigila; 512 Nisináwa; 513 Nokamán; 514 Nokten; 515 Nonamá (Noanáma); 516 Nonuya; 517 *Norokuažé; 518 *Norteño; 519 Nukuini (Remo); 520 *Nutave.

521 Ñéengatú, d. (Lingoa geral, Niangatú).

522 Okáina; 523 *Okloya; 524 Okomayana (Kumayena); 525 Omagua; 526 Ömöa; 527 Omurana; 528 *Onoto; 529 Opaie; 530 *Opone; 531 Orari (Orarimugudoge); 532 *Orejone; 533 *Otanavi; 534 *Otí (Chavante, Eošavante); 535 Otomak; 536 Otuké; 537 Oyampi; 538 Oyana (Upurui); 539 Oyarikule.

540 Paez; 541 Paikipiranga; 542 *Paikonéka; 543 Pakaguara; 544 Pakanova; 545 Pakasa, d.; 546 Palänoa; 547 *Palenke; 548 Palikur; 549 Palmela; 550 *Palta; 551 Pamari (Paumari); 552 *Pamigua; 553 Pamöá (Tatú-tapuyo); 554 Panáre; 555 *Panče; 556 Panikita; 557 Pánobo (Pano); 558 *Pantagora; 559 *Panzaleo (Latakunga); 560 *Pañáme; 561 Papamiän; 562 Papuri Makú, d.; 563 Parakanã; 564 Paran-náwa; 565 Parauhano; 566 *Paratió; 567 *Paraviyana; 568 Parawa (Hondyapa); 569 Paresí (Aritĺ, Kozárini); 570 *Pariagoto; 571 Parintintin; 572 Pariri; 573 *Pariza; 574 Pasé; 575 *Pasto (Muel'ama); 576 *Patagon; 577 Patamona; 578 Patašo; 579 *Patašo, Southern, d.; 580 Patsoka (Iuruty-tapuyo); 581 Pauaté.

582 *Paunaka; 583 Pauserna (Guarayo); 584 Pauši; 585 Paušiana; 586 Payagua (Sarigé); 587 Payo; 588 Payualiene (Pakú-tapuya); 589 *Peba; 590 Pedraza Tunebo, d.; 591 Péeneken (Tehuelče); 592 *Pemeo; 593 *Penonomeño; 594 Peruvian Aymara, d.; 595 Pewenče, d.; 596 Pianokoto; 597 Piapai; 598 Piápoko (Dzáse, Kaberre, Mitua); 599 Piároa; 600 Pikunče, d.; 601 Pilagá; 602 *Pimenteira; 603 Pinče (Učpa); 604 Piokobžé; 605 Pioxe (Angotero); 606 Pirahá; 607 Piro; 608 *Pitá; 609 *Pixao; 610 Ponkatažé; 611 Potigwára (Petigaré); 612 Poturero; 613 Poyanáwa; 614 *Požitxá; 615 Puináve (Épined, Guaipuño, Uaipí); 616 *Pukiña; 617 *Purekamekran; 618 *Puri (Telikón); 619 Purúborá; 620 *Puruha; 621 Purukotó; 622 Pusárakaú.

623 Querari Makú, d.

624 *Rabona; 625 Rama; 626 Ramarama (Ytangá); 627 Rankelče, d.; 628 Remkokamekran (Remako-Kamékrére); 629 Resígaro (Rosígaro); 630 Riama; 631 *Rokorona; 632 *Romarí; 633 Rukuyen.

634 *Sabanero (Savaneric, Valiente); 635 Sa-

bela (Čiripuno); 636 Saixa (Southern Čokó); 637 Sakamekran; 638 *Sakata; 639 Salivi; 640 Saluma; 641 Sanamaikã; 642 Sanapaná; 643 *Sanavirona; 644 San Simonianos; 645 Saparâ; 646 *Sapiboka; 647 *Sapukí; 648 *Sapuyá (Sabuya); 649 Sära; 650 *Saraveka; 651 Saxčíla (Colorado, Tsátčela, Yumbo); 652 *Sečura; 653 Sensi; 654 *Siboneyo; 655 Simaku (Oruaríña); 656 *Sindagua (Mal'a); 657 Sínsiga; 658 *Sinufana (Cenufara); 659 Siona (Kokakañú, Zeona); 660 *Siparigoto; 661 Siriono (Ñeoze, Qurugua, Tirinié); 662 *Situfa; 663 Siusí (Ualíperi-dákeni); 664 Sotsiagay (Sotegraik, Sotirái); 665 *Suerre; 666 Suhín (Súyen); 667 Suyá.

668 Šapra; 669 Šavante (Akuãn, Kayamó); 670 *Šebayi; 671 Šelknam (Aona, Ona); 672 Šerente; 673 Šetá; 674 Šikiana (Čikena); 675 *Šikriabá; 676 Šipaya (Ašipaye); 677 Širiana; 678 Širianá (Guaharibo, Kirišaná, Širišána); 679 Šokléng (Notobotokudo, Pihtadyovai); 680 Šuara (Jíbaro); 681 *Šukurú; 682 *Šumeto.

683 *Tabaloso; 684 Tadó (Baudó); 685 Tagnaní; 686 *Tahami; 687 Taiguana; 688 *Taino (Nitaino); 689 *Tairona (Teyuna); 690 Takana; 691 *Takumandíkai (Caras Pretas); 692 *Takuñapé (Péua); 693 *Tal'an (Atal'an, Huankavil'ka); 694 Tama; 695 Tamaindé; 696 *Tamanak; 697 Tamaní; 698 Tanimuka (Opaina); 699 Tapañuma; 700 Taparita; 701 Tapieté (Parapiti, Yanaygua); 702 Tapirapé; 703 Tapoya; 704 *Tarairiuw (Očukuyana-tapuyo); 705 Tariána (Iyäina); 706 Taruma; 707 Tauité; 708 Taurepan (Ipurikotó, Taulipáng); 709 Tažé; 710 Tegría Tunebo, d.; 711 Telembi; 712 Tembé; 713 Teremembé; 714 Tereno; 715 Terraba (Brurán); 716 Tetete; 717 Téueš (Täuüšn); 718 Tiatinagua (Čunčo, Guarayo de Tambopata); 719 Tikuna (Tukuna).

720 *Timba; 721 Timileni; 722 Timote; 723 Tinigua; 724 Tiquíe Makú, d.; 725 Tirandá; 726 Tirub (Rayado, Tiribi); 727 Tiverikoto; 728 Tiwituey (Tuey); 729 Toba (Frentone, Tokowit); 730 Toba guazú, d.; 731 Toba mičí, d. (Takšik); 732 Torá; 733 Toromona (Čama); 734 *Tororó; 735 Tostó; 736 Totoró; 737 Toyeri (Arasairi, Huačipairi, Tuyoneiri); 738 Trio (Diau); 739 Trumai (Tramalhys); 740 Tsirákua (Siracua); 741 Tsölá; 742 Tsöloa; 743 Tukano (Dace, Dagsexe, Daxseá, Tokana); 744 Tukurá; 745 *Tumbez; 746 Tumrahá (Chamacocos bravos, Tumanahá); 747 Tumupasa; 748 Tunebo (Tame); 749 *Tunseta (Atunseta); 750 Tuparí; 751 Tupi; 752 Tupi, d. (Abañéenga); 753 *Tupinamba; 754 Turiwára; 755 Tušináua; 756 Tuyúka.

757 Uaíana; 758 Uaika; 759 Uaíkana (Piratapuyo); 760 Uaimiri (Yauaperý); 761 *Uainumá (Uainambý-tapuyo); 762 Uanána; 763 Uantya (Puçá-tapuya); 764 Uarao (Guarauno, Waraw); 765 Uarekéna; 766 Uariua; 767 Uasöna (Pisatapuyo); 768 Uayeué; 769 *Ugaraño; 770 *Uirina; 771 Uitoto; 772 Uitoto, Central, d.; 773 Uitoto, Northern, d.; 774 Uitoto, Southern, d. (Meneka); 775 *Ulabangui; 776 Umán; 777 Umáua (Hiánakoto, Saha, Tsahatsaha); 778 Umotina; 779 Upano; 780 *Urarina; 781 Uro (Očozuma); 782 Urubú (Gavião); 783 Urubú-tapuyo; 784 Urukuena; 785 Urumí; 786 Urunamakan; 787 Urupá; 788 Ušikrin.

789 Veliče, d. (Huiliče); 790 Vexos (Aiyo); 791 *Viatan; 792 *Viceyta (Cachi, Orosi, Tucurrique); 793 Vilela (Čulupí, Uakambalelté).

794 Waika; 795 Waimaré (Kabiši); 796 *Waitaka (Goytakaz); 797 Waninâua (Katokina-Gregório); 798 Wañám (Pawumwa); 799 Wapišána (Wapityan); 800 Waurá; 801 Wayamará (Azumara); 802 Wayana (Guanhanán, Guayana); 803 Wayawai (Woaywai); 804 Wayoró; 805 Wiraféd (Tupi do Machado); 806 Wökiáre; 807 Wollaston Yamana, d.

808 *Xamundi; 809 Xevero (Jebero, Šiwila); 810 Xibito; 811 Xiraxára; 812 *Xitirigiti.

813 Yabutí; 814 Yagua (Mišara); 815 Yahúna (Jaúna); 816 Yamamadí (Gaamadi, Kapaná, Kapinamari); 817 Yamana (Yaghán); 818 Yamana, Central, d.; 819 Yamana, Eastern, d.; 820 Yamana, Southern, d.; 821 Yamana, Western, d.; 822 Yamarikuná, d.; 823 *Yamasí; 824 *Yamaye; 825 Yameo; 826 Yamiaka; 827 Yaminâua; 828 *Yao; 829 Yariguí; 830 Yarú; 831 Yarumá (Aruma); 832 Yaruro (Pumé, Yuapín); 833 Yauarána; 834 Yaulapíti; 835 Yavitéro (Pareni); 836 Yeral; 837 *Yolo (Paripazo); 838 Yuberi; 839 Yukúna; 840 Yuma; 841 Yumbanáwa; 842 Yupuá; 843 Yurakare (Yuruxure); 844 Yuri; 845 *Yurimangui; 846 Yuruna.

847 *Zamuko; 848 Záparo; 849 *Zenú.

850 Žavažé (Šavajé); 851 *Žeikó; 852 *Žuimakane.

853 Language of uncertain name in Gran Chaco (Axata Darpa?, Dawainomol?, Sintó?, Upsuksinta?).

There follows an index of synonyms cross-referred to numbers of the above list: Abañeém 200, Abañéenga 752, Abiquira 72, Adyána 6, Airasú 97, Aiyo 790, Ajujure 43, Akenóini 229, Akobu 180, Akuän 669, Ak'aro 318, Almaguero 233, Amíša 20, Amorúa 463, Amuexa 20, Angotero 605, Anti 274, Aona 671, Apiaka de Tocantins 37, Apolista 396, Aponteño 233, Arasairi 737, Araukano 436, Arití 569, Aroa 61, Aruak 49, Aruma 831, Ašipaye 676, Atal'an 693, Atunseta 749, Atzíri 274, Awahun 7, Axata Darpa 853, Azumara 801; Bacaery 81, Bakuen 101, Balsapuertiño 497, Baudó 684, Bayano 381, Bisanigua 155, Bogota 501, Bonkota 501, Boruka 103, Brurán 715, Bugre 76, Bukueta 501, Busintana 89, Buskipani 284, Bwiha 464; Cachi 792, Cahygua 464, Canduachi 281, Canella 329, Canoeiros 1, Caras Pretas 691, Caribs of Pomeroon 296, Carijona 266, Carnijo 179, Cenufara 658, Chamacocos bravos 746, Chavante 534, Chomane 134,

Colorado 651, Coroados 99, Corumbiaros 224, Cotoxo 391, Culle 377, Cusco 56; Čama 733, Čaukéz 132, Čikena 674, Činča 136, Čipeo 113, Čiripuno 635, Čokó, Southern 636, Čolo 146, Čo'oxe 26, Čulupí 793, Čunčo 253, 718, Čunupí 65; Dace 743, Dagsexe 743, Darien 371, Dawainomol 853, Daxseá 743, Dekuána 410, Diagit 262, Diau 738, Dzáse 598, Džiporoka 101; Ečoladí 197, Emexeite 231, Emperá 146, Encabellados 15, Eošavante 534, Épined 615; Fórnio 179, Frentone 729; Gaamadi 816, Galibi 267, Gavião 782, Gay 25, Gekoinhalaák 398, Goytakaz 796, Gradaú 363, Guaharibo 678, Guaipuño 615, Guambia 478, Guaná del Chaco 303, Guanhanán 802, Guarapiče 127, Guarauno 764, Guarayo 583, Guarayo de Tambopata 718, Guarú 182, Guayana 802, Guayana de Paranapanema 258; Hahanana 343, Halakwalip 13, Hauš 430, Hewadie 312, Hiánakoto 777, Hondyapa 568, Huači 123, Huačipairi 737, Huankavil'ka 693, Huarpe 14, Huhúteni 221, Huiliče 789; Iaté 179, Ibirayára 325, Idiama 239, Impetineri 16, Inga 328, Ipurikotó 708, Ira-tapuya 433, Iširá 164, Itatin 202, Iuruty-tapuyo 580, Ivitorokái 18, Ixka 89, Iyäina 705, Izoceño 119; Jaúna 815, Jaunavô 300, Jebero 809, Jíbaro 680; Kaberre 598, Kabiši 795, Kadaupuritani 311, Kaimito 255, Kairiri 162, Kaiuá 464, Kalčaki 262, Kalinago 108, Kalkuama 67, Kal'aga 2, Kamba 141, Kaŋgiti 237, Kapaná 816, Kapinamari 816, Karani 200, Karanki 230, Karapana-tapuyo 491, Kasiana 309, Katathoy 391, Katokina-Gregório 797, Káua-tapuya 459, Kaŋgia 252, Kayamó 669, Kayapó do Rio Pau d'Arco 467, Kayapó do Rio Xingu 188, Kičua 328, Kiriri 338, Kirišaná 678, Koatí-tapuya 288, Kočabot 167, Koče 275, Köggaba 252, Kokakañú 659, Kólö 385, Kol'a 79, Korekarú 302, Kozárini 569, Krekmun 101, Krenak 101, Krutria 453, Kueresa 359, Kulina 385, Kumada-mínanei 236, Kumayena 524, Kunza 66, Kuraso 201; Lamista 395, Lapalapa 397, Latakunga 559, Layano 197, Likantai 66, Lingoa geral 521, Lorenzo 20, Lukkuni 49; Mačaka 89, Mačikui 449, Magdaleno 488, Mal'a 656, Mandingo 381, Maopityan 434, Maraon 442, Maško Piro 232 Mašuruna 445, Mayoruna 445, 485, Mbayá 217, Meamuyna 97, Meneka 774, Merrime 465, Miranha Oira Assú Tapuya 97, Miraña 97, Miraña-Karapana-Tapuyo 27, Mišara 814, Mitua 598, Monšoko 483, Moré 241, Morotoka 487, Mosca 129, Moskovítika 481, Muel'ama 575, Muiska 129, Murato 281, Muriaté 443; Nábela 196, Naknamuk 101, Nepoyo 435, Niangatú 521, Nimaka 411, Nitaino 688, Noanáma 515, Notobotokudo 679, Ntogapüd 242; Ñakfáteitei 258, Ñeoze 661; Očozuma 781, Očukuyana-tapuyo 704, Omaguaka 226, Ona 671, Opaina 698, Orarimugudoge 531, Oremanau 425, Orosi 792, Oruaríña 655; Pakú-tapuya 588, Pampa 184, Pano 557, Parapiti 701, Pareni 835, Pari 496, Paripazo 837, Parua 323, Parukatu 313, Patašo, Northern 219, Paumari 551, Pawumwa 798, Pelado 445, Pepuši 407, Petigaré 611, Péua 692, Pihtadyovai 679, Pira-tapuyo 759, Pisa-tapuyo 767, Puçá-tapuya 763, Puelče 184, Pumé 832; Qheshwa 328, Quepo 331, Quie 319, Quiloaza 2, Qurugua 661; Rayado 726, Remako-Kamékrére 628, Remo 519, Río Zapote Rama 359, Rosígaro 629, Runa-simi 328; Sabuya 648, Saha 777, San Blas 381, Sanha 67, Sapé 265, Sarigé 586, Savaneric 634, Setebo 113, Sibondoy 275, Silviano 478, Simigae 25, Sintó 853, Siracua 740, Siriána 140, Sirineiri 452, Solote 151, Sotegraik 664, Sotirái 664, Sújen 666, Sukuriyú-tapuya 486; Šavajé 850, Šimikae 25, Šimiža 135, Šipibo 113, Širišána 678, Šiwila 809, Šuensampi 472; Tabankale 11, Tain 234, Takšik 731, Taluhet 482, Tame 748, Tampiš 138, Támud 263, Tatútapuyo 553, Taulipáng 708, Täuüšn 717, Tehuelče 591, Tekiráka 72, Teko 166, Telikóñ 618, Temomeyémẽ 215, Teyuna 689, Tiribi 726, Tirinié 661, Tokana 743, Tokowit 729, Tonokoté 401, Toósle 411, Towośli 411, Tramalhys 739, Tsaawí 126, Tsahatsaha 777, Tsátčela 651, Tsoneka 32, Tucurrique 792, Tuey 728, Tukuna 719, Tule 381, Tumanahá 746, Tupi do Machado 805, Tuyoneiri 737; Uainambý-tapuyo 761, Uaipí 615, Uáira 185, Uakambalelté 793, Ualíperi-dákeni 663, Uaraiku 39, Učpa 603, Uina 157, Upsuksinta 853, Upurui 538, Urupaya 62, Uti-Krag 101; Valiente 490, 634; Wapityan 799, Waraw 764, Woaywai 803; Xumano 133; Yagháη 817, Yamorai 126, Yanaygua 701, Yauaperý 760, Yauareté-tapuya 302, Yekuaná 462, Yófuaha 151, Ytangá 626, Yuapín 832, Yumbo 651, Yunga 136, Yuruxure 843; Zeona 659.

List of Language Families and Their Constituents.[5]

AKONAN: 10.

AKONIPA: 11.

ALIKALUF: 13, 148.

AL'ENTIAK: 14, 473.

AMNIAPÄ: 19, 60, 218, 750.

ANDOKE: 26.

ANSERMA: 30.

ARAUKANO: 436 (132, 437, 482, 595, 600, 627, 789).

ARIKÉM: 58.

ARUAK: *Antillean* group: 98, 177, 400, 654, 688, 824; Apolista group: 396; Baré group: 6, 86, 215, 221, 236, 288, 302, 311, 320, 429, 433, 459, 486, 588, 663, 705; *Bolivian* group: 87, 119, 492, 493, 542, 582, 650; *Caquetá* group: 456, 629, 839; *Central* group:

[5] In this alphabetical list language families are written with small capitals, geographical terms are italicized, and numbers refer to languages and dialects of the preceding list. Dialects of a language are enclosed in parentheses. Thus, dialects *a*, *b*, *c* of language *d* are symbolized: *d* (*a*, *b*, *c*).

68, 434, 460, 799; *Guiana* group: 49 (50, 51); *Jandiatuba* group: 39; *Japurá* group: 443, 761; *Juruá* group: 441; Kaketío group: 4, 17, 77, 263, 337, 598, 734; Lorenzo group: 20; Manáo group: 246, 294, 425, 677, 770; Mixed [with traces of KAMAKAN]: 706; Mixed with CARIB: 268; Mixed with KATUKINA: 48, 385, 405, 551, 816, 838; Mixed with MAKÚ: 133, 317, 574; Mixed languages of the Takana group [with PANO]: 41, 46, 204, 239, 285, 321, 403, 444, 646, 690, 718, 733, 747; Mixed with TUKANO: 117; Mixed with TUKANO and MÚRA: 485, 719; Mixed languages of the Uro group [traces of PANO and MOSETENE]: 121, 139, 616, 781; *Northern* group: 61, 442, 548; *Orinoco* group: 73, 83, 463, 835; Paresí group: 238, 569, 795; *Peninsular* group: 185, 528, 565; *Pre-Andine* group: 149, 232, 237, 274, 277, 304, 382, 390, 404, 431, 452, 607; *Southern* group: 197, 336, 714; *Xingú* group: 389, 466, 800, 834.

ATAKAMA: 66.

AUAKÉ: 70.

AUIŠIRI: 72.

AVURRÁ: 74.

AWARIKO: 75.

AYMARA: 79 (92, 152, 318, 402, 545, 594).

BORA: 97, 178, 231, 494, 516.

BORÓRO: 99, 362, 387, 531, 536, 778.

BOTOKUDO: 100, 101, 614.

CARIB: Caribized language of the ARUAK family: 585; *Central* group: 37, 43, 572, 840; *Central Guiana* group: 313, 524, 539, 584, 596, 674, 784, 803; *Colombian* group: 111, 137, 198, 293, 339, 413, 427, 439, 489, 502, 530, 592, 686, 823, 829; *Eastern* group: 602; *Eastern Guiana* group: 33, 538, 633, 640, 738, 768; *Guaporé* group: 549; *Japurá* group: 192, 266, 630, 777; *Jauaperi* group: 368, 567, 760; *Maracá* group: 419, 440, 621, 645, 801; Mixed languages: 95, 309, 504; Mixed with ARUAK: 297; Mixed with TUKANO and ARUAK: 844; Mixed with TUPI: 40; *Peruvian* group: 576; *Roraima* group: 55, 59, 235, 271, 577, 708; *Sipapo* group: 388, 435, 554, 806, 833; *Tamanaco* group: 127, 203, 209, 295, 379, 547, 570, 660, 696; *Ventuari* group: 227, 383, 410, 462; *Western Guiana* group: 9, 108, 267, 296, 299, 727, 758; *Xingú* group: 81, 506 (175, 214, 264, 822), 831; Yao group: 670, 828.

COROADO: Pure languages: 109, 618; Mixed language [with intrusions of Žé and traces of KAINGÁN]: 360; Unknown languages: 45, 307, 608, 682, 796.

ČAPAKURA: Pure languages: 3, 123, 241, 244, 249, 340, 378, 393, 457, 500, 507, 631, 785, 786, 787, 798, 830; Mixed with Carib: 732.

ČARRÚA: 118, 124, 211, 474.

ČEČEHET: 128.

ČIBČA: Arhuak group: 67, 89, 96, 106, 135, 196, 252, 308, 448, 689, 775, 852; Dorask group: 120, 153, 193; *Guaimí* group: 490, 498, 501, 518, 573, 593, 634; Guatuso group: 206, 213, 331, 359, 665; Mixed language of the Andakí group: 24; Mixed languages of the Barbákoa group: 85, 199, 230, 324, 342, 349, 369, 478, 575, 651, 656, 711, 736, 749; Mixed languages of the Betoi group: 8, 88, 165, 662; Mixed with Central American elements: 346, 371, 381; Mixed languages of the Paez group: 510, 540, 555, 556, 558, 559, 609; Mixed languages of the Yurimangui group: 399, 720, 837, 845; Muiska group: 129, 145,160, 394, 657, 748 (90, 426, 590, 710); Rama group: 625; Talamanka group: 102, 103, 144, 174, 248, 715, 726, 792.

ČIKITO: 130, 154, 644.

ČIMÚ: *Northern* group: 283, 424, 620, 693, 745; *Southern* group: 136, 176, 477.

ČOKÓ: 23, 116, 146, 187, 314, 334, 471, 515, 520, 636, 658, 684, 744, 849.

ČOLON: Pure language: 147; Mixed with PANO: 810.

ČON: 32, 430, 591, 671, 717.

ENIMAGA: 167, 411.

ESMERALDA: 173.

FULNIO: 179, 292.

GAMELLA: 105, 180.

GARÚ: 182.

GENNAKEN: 184.

GUAHIBO: 155, 191, 207, 374.

GUAMA: 195.

GUATÓ: 205.

GWAIKURU: Pure languages: 2, 217, 250, 481, 601, 729 (301, 353, 730, 731); Mixed with ČIKITO: 189; Mixed with MATAKO: 586.

HUARI: 224, 446.

HUMAHUAKA: 226, 523.

ITONAMA: 243.

KAHUAPANA: 125, 126, 253, 472, 533, 683, 809.

KAINGÁN: 18, 76, 234, 256 (251, 257, 258, 259, 260, 273), 802.

KAIRIRI: 162, 276, 338, 648.

KALIÁNA: 265.

KAMAKAN: Pure languages: 269, 279, 391, 468, 483; Mixed with Žé: 447.

KANDOŠI: *Northeastern* group: 281, 668; *Southeastern* group: 142, 624, 638.

KANIČANA: 282.

KAPIŠANA: 287.

KARADZÁ: 290, 850.

KATUKINA: 278, 312, 315, 568.

KAYUVAVA: 327.

KEČUA: 328 (29, 56, 78, 93, 107, 138, 223, 233, 341, 355, 392, 395, 508).

KERRANDÍ: 332.

KINDÍO: 335.

KOËRUNA: 344.

KOFÁN: 345.

KOMEČINGON: 352.

KOPAL'ÉN: 357.

KUKURÁ: 375.
KUL'I: 377.
LEKO: 397.
LULE: 247, 401.
MAKÚ: *Northern* group: 615; *Southern* group: 415 (110, 158, 225, 438, 505, 562, 623, 724).
MÁKU: 416.
MAKURÁP: 418, 804.
MASKOI: 28, 303, 398, 449, 642, 647.
MAŠAKALI: Pure languages: 289, 380, 414, 451, 484, 560; Mixed with COROADO: 421.
MAŠUBI: 453.
MATAKO: *Eastern* group: 65, 150, 151, 212, 664, 666; *Western* group: 216, 422, 454, 514, 790.
MAYNA: 461, 527.
MOBIMI: 476.
MOKOA: 275, 333, 479.
MOSETENE: 134, 488.
MUNÍČI: 497.
MÚRA: 91, 455, 499, 606.
ÑAMBIKWÁRA: 31, 350, 685, 695, 707.
OPAIE: 529 (190, 245).
OTÍ: 534.
OTOMAK: 535, 700.
PANO: *Eastern* group: 112, 300, 543, 544; Mixed: 653; *Northern* group: 16, 113, 270, 280, 284, 305, 306, 356, 376, 445, 450, 509, 512, 513, 519, 557, 564, 613, 755, 797, 827, 841; *Southern* group: 47, 53, 69, 826.
PATAŠO: 408, 578 (219, 579).
PIÁROA: *Eastern* group: 412, 599; *Western* group: 552, 639, 723.
PINČE: 603.
PURÚBORÁ: 619.
SABELA: 635, 728.
SEČURA: 310, 351, 652.
SIMAKU: 655.
ŠIRIANÁ: 298, 622, 678, 794.
ŠUARA: 5, 7, 42, 94, 194, 550, 680, 779.
ŠUKURÚ: 566, 681.
TARAIRIUW: 704.
TIMOTE: 172, 373, 470, 475, 480, 722, 725, 735.
TOYERI: 737.
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TUKANO: *Eastern* group: 84, 104, 140, 156, 157, 159, 170, 343, 370, 417, 469, 491, 526, 546, 553, 580, 649, 698, 741, 742, 743, 756, 757, 759, 762, 763, 767, 783, 815, 842; *Western* group: 15, 168, 228, 358, 361, 406, 605, 659, 694, 716.
TUPI: *Bolivian* group: 141, 202, 583, 661, 701; *Central* group: 35, 52, 316, 322, 323, 409, 563, 571, 699, 805; Mixed with ARIKÉM and ARUAK: 242, 330, 626, 641; Mixed with ARUAK: 62, 386, 496, 676, 846; Mixed with CARIB and ARUAK: 458; Mixed with ŽÉ: 432; *Southern* and *Northern* languages: 1, 22, 44, 54, 71, 166, 200 (34, 143, 261, 464), 208, 210, 272, 347, 348, 428, 525, 537, 541, 611, 673, 679, 691, 692, 702, 712, 713, 751 (521, 752), 753, 754, 782, 791.
UARAO: 764.
UITOTO: Pure languages: 522, 532, 771 (220, 255, 495, 772, 773, 774); Mixed with TUKANO: 27.
UMÁN: 776.
VILELA: 262, 384, 643, 793.
XAMUNDI: 808.
XIRAXÁRA: 80, 183, 811.
XITIRIGITI: 812.
YABUTÍ: 57, 813.
YAGUA: Pure language: 814; Mixed with ARUAK and CARIB: 825; Mixed with CARIB: 589.
YAMANA: 817 (807, 818, 819, 820, 821).
YARURO: 832.
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ZAMUKO: *Northern* group: 201, 319, 487, 503, 511, 612, 740, 769, 847; *Southern* group: 114 (115, 222), 164, 746.
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Unclassified: 21, 63, 64, 82, 122, 131, 163, 169, 171, 181, 240, 372, 420, 423, 561, 581, 587, 597, 632, 687, 697, 703, 721, 766, 780, 836, 853.

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LANGUAGE INDEX FOR VOLUME 17[1]

Aleut 66f., 167f., 209
Algonquian 43, 62, 136, 163, 181
Amauaca 192
Ampaneá 193
Anambá 193
Apachean 80
Apalachee 71f.
Apapokúva 193
Apiaka 193
Arapaho 10f., 98f.
Arapiyú 193
Arawak 257f.
Arawine 193
Aré 193
Arupai 193
Asuriní 193
Atakapa 71f.
Athapascan 80f., 132, 181
Auetö 193
Azcatitlan 136
Aztec 59, 136
Bella Coola 205
Biloxi 77, 78, 198f.
Bocas Pretas 193
Cabahyba 193
Calipurn 193
Canoeiros 193
Carib 224f., 257f.
Carib (Central American) 102f., 224f.
Carib (Dominica) 229f.
Carib (Honduran) 257f.
Carib (Island) 23 f., 227, 257f.
Chané 193
Chasta Costa 181
Chehalis 206
Chemakum 56
Cheyenne 15
Chickasaw 71f.
Chimariko 181
Chinook 181
Chipaya 193
Chiriguáno 193
Chipewyan 80f., 131
Chiripá 193
Chitimacha 71f.
Choctaw 71
Čiwere 198f.
Čiwere-Winnebago 198f.
Coeur d'Alene 57
Comox 181
Copainalá 1f.
Çoque 1
Creek 71, 73
Crow 77, 197f.
Crow-Hidatsa 198f.
Ɂegiha 199f.
Dakota 77, 197f.
Dakota Teton 201
Delaware 163
Emerillon 193
Eskimo 18f., 63f., 167f., 209f., 217f.
Guajá 193
Guarani 193
Guaráyu 193
Guayakí 193
Guayana 257
Haida 181
Hidatsa 77, 197f.
Hitchiti 71
Hokan-Siouan 71, 181
Huasteco 41
Huave 1, 7
Iñeri 257f.
Inupik 70, 210f.
Ipoteuate 193
Iowa-Oto 77
Ioway-Oto 197
Iroquoian 42f.
Itogapúk 193

[1] This index lists only American Indian languages; the numbers refer to pages in Volume 17 of IJAL. Numbers followed by f. indicate that the language is mentioned not only on the page given, but also in the following pages of the same article or review; so also, if the language forms the main topic of the article or review, it is indexed by title page reference, with f.

The list of languages and dialects in Salzmann's review of Loukotka (in this issue of IJAL) is already alphabetized and need not be repeated in this index.

Jabotiféd 193
Jakundá 193
Kabixiana 193
Kainguá 193
Kalayua 193
Kaliña 257f.
Kamayurá 193
Kawahíb 193
Kayabí 193
Kechua 266
Kepkeriwát 193
Klallam 206
Koasati 71f.
Kokama 193
Kokamilla 193
Kuruaya 193
Kusari 193
Kuskokwim 66f.
Kutenai 84f., 98, 181
Kwakiutl 57, 181
Lenca 1
Makirí 193
Manajé 193
Manaxo 193
Mandan 77, 197f.
Manitsana 193
Matlapa (Nahuatl) 32f.
Mattole 80f.
Maué 193
Maya-Quiché 4
Mayan 1, 7, 41, 195
Mazahua 37 f.
Mbühá 193
Mesquital 41
Mialat 193
Miami 131
Mikasuki 71
Miránha 193
Miraño 193
Miwok 194
Mixe 1f.
Munduruku 193
Muskogean 71f.
Na-dene 181
Nahuatl 32f., 181
Naimiguara 193
Natchez 71f.
Navaho 80f., 123f., 134, 136, 180, 181, 183
Nootka 57, 135, 180, 181, 183
Notobotocudo 193
Nunivak 68
Ocozouautla 6, 7
Ofo 78, 197f.
Ojibwa 43, 62
Omagua 193
Omaha-Ponca 77, 197f.
Osage 197f.
Osage-Quapaw 77
Otomi 37, 41
Oyampi 193
Paikipiranga 193
Paiute (Southern) 131, 181
Pakajá 193
Papago 193
Parakanã 193
Paranawát 193
Pariana 193
Parintintin 193
Pariuaia 193
Pauaté 193
Pauserna 193
Penutian 1, 6, 181
Pima 98
Pochutla 36
Popoluca 1, 5, 6, 9
Potowatomi 62
Proto-Eskimo 66f.
Proto-Eskimo Aleut 209f.
Proto-Gulf 71f.
Proto Muskogean 71f.
Proto Siouan 71f., 197f.
Purukarod 193
Quiché 194
Quileute 57
Raipé-Chihi 193
Ramarama 193
Salish 57, 67, 205f.
Sanamaikã 193
Santee 201
Sarcee 181
Shawnee 131
Shebayo 257f.
Sierra-Popoluca 5, 57f., 62
Siouan 62, 71, 197f.
Siriono 193
Snoqualmie-Duwamish 136

Taino 257f.
Takelma 181
Takuatepe 193
Takumandíkai 193
Takunhapé 193
Tamakom 193
Tapachuteca 1, 6, 8, 9
Tapanhuna 193
Tapieté 193
Tapijulapa 6
Tapirapé 193
Tapiraunha 193
Taruma 136
Tawasa 77
Tecpatán 1, 9
Tenetehara 193
Teton 201
Timaóna 193
Timucua 77
Tonkawa 131f.
Totonacan 1
Tübatulabal 80
Tukumãfed 193
Tunica 61, 71f.
Tupi 193, 266
Tupi-Guarani 136, 193
Turiwára 193
Tuscarora 42 f.
Tutelo 78, 181, 198f.
Tuxtla 6, 7
Twana 205f.
Tzoque 1, 9
Unaaliq 66f.
Urubú 193
Urumi 193
Ute 181
Uto-Aztekan 181
Wakashan 57
Wasco 181
Winnebago 77, 198f.
Wishram 181
Xaltocan 136
Xibitaona 193
Xinca 1
Yana 135, 180, 181, 183
Yeté 193
Yuchi 48f., 71f., 194
Yupik 70, 210f.
Yurimagua 193
Yuruna 193
Záparo 193
Zapotec 9
Zoque 1f., 98, 105f., 137f., 235f., 253

ELSIE F. DOSCH
INDIANA UNIVERSITY